

NexGen Digital™

Broadcast Installation Guide



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Table of Contents

<i>Introduction</i>	<i>1</i>
How Long Will it Take?	3
Customer Support	4
Tips	5
Pre-Installation Checklist.....	7
 <i>Equipment Set-Up.....</i>	 <i>9</i>
Unpack and Inspect.....	10
Set Up Equipment	11
Power Up Equipment	14
 <i>Site Diagrams</i>	 <i>17</i>
 <i>Supplier Guides</i>	 <i>19</i>
 <i>Traffic and Music</i>	 <i>21</i>
Traffic	22
MediaStar	23
CBSI	23
DARTS	26
Programming and Music	27
Selector	28
Music Master	32
 <i>Training</i>	 <i>35</i>
Program the Database.....	36
Training Checklist.....	39

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Introduction

Introductory information, Customer Support contact numbers, and
Pre-Installation Checklist.

Welcome

Thank you for choosing a Prophet Systems Innovations (PSi) **NexGen Digital™Broadcast** system.



The **Installation Guide** is intended to be a resource for the station engineer and the production (or music) director at the initial stage to successfully set up the **NexGen Digital™Broadcast** system.

After the initial set up, a Prophet Systems **Installation Specialist** will come on site and train the staff to begin using the **NexGen Digital™Broadcast** system.

The **Installation Guide** is generally straightforward; however, if you have any questions or require assistance, please call our **Technical Support Department** at **877.774.1040**.

Additional Technical Documentation is available at <http://www.prophetsys.com/products/techinfo>.

Here you will find NexGen Digital™ User Documentation, our Technical White Paper Series, and cable diagrams.

What you will find in this guide...

Equipment Set-Up and Configuration

Unpack, inspect, and set up equipment. Includes sample and site-specific diagrams.

Supplier Information

User Guides for audio card, PCI card, and audio control unit.

Traffic and Music

Set up information for the most common Traffic and Music systems with **NexGen Digital™**.

Training and Configuration

Training on the **NexGen Digital™** software set up and use by the **PSi Installation Specialist**.

CD/Extractor (CD/X) and Audio Format Converter (AFC) User Guides

How Long Will It Take?

Typically, installations can take from three to eight weeks, depending on the size of the site. Other variables can make a large impact on the amount of time the installation will take. A few of these are:

Ownership of the Project: Having a key person (or people) take ownership of the project, from initial system setup to training the staff, will help the installation progress smoothly. Designate either the Engineer or the Program Director, since they will have the largest amount of duties with implementing and running the NexGen Digital™ System. This person is also designated as the 'go-to' for any issues relating to NexGen before calling Technical Support.

Time Spent on the Project: The amount of time the Engineering department can spend with the system, and the experience of the engineers, will impact the installation timeframe. Although the installation itself requires very little in-depth computer knowledge, a good understanding of computer systems is a plus.

Willingness of the Staff: Most of your staff will be quite excited about getting a new digital system, but there may be some that aren't. Be aware of the staff's feelings toward this project and adjust your expectations accordingly.

Audio Recording: A good rule is to take the amount of audio length that needs to be recorded and double it. This allows for typing in database information and recording the spot or song. (This timeframe can be greatly reduced by using pre-stored music).

Other Projects: Be sure to include any additional equipment upgrade or remodeling projects into the expected NexGen install time frame.

Customer / Technical Support

When you contact us...

Successfully and quickly solving your issue involves providing us as much information as possible about the issue (i.e., check the log for any unusual messages, talk to the person on the air at the time, and so forth). Many questions can be answered with a review of the log.

The designated 'key person' will gather as much relevant information as possible, call the technical support number listed below. In relating your issue, please be concise.

Please do not call any other number – including the toll-free sales number – your call cannot be rerouted and you will be asked to hang up and dial the technical support number.

The support person will make every attempt to answer your issue with a solution at the time of your call. If the issue requires additional research or is complex (for example, we need to attempt to replicate the issue on our test system), we may have to call you back.

Our interest is getting you back up to speed as quickly and efficiently as possible. We may ask questions that have no apparent relation to the issue at hand, but your responses are critical to establishing the best course of action.

Our focus is always to work with you to arrive at a solution, regardless of the cause, and get you up and running as soon as possible.

Please use the following numbers for issues involving customer and technical support services*.

Toll Free Technical Support: 1-877-774-1040 Fax: 308-284-2382

Prophet Systems Innovations, P.O. Box 887, Ogallala, NE 69153

CDesk@prophetsys.com

Daryl Webster, Senior Manager of Customer Support

Toll Free: 1-877-774-1010 Direct: 1-308-284-5028

Fax: 308-284-4181

DarylWebster@prophetsys.com

**If you are outside the United States, please contact your NexGen Digital™ supplier for support procedures.*

Tips

Before you start...

Here are some cautions, tips, and tricks that have been often brought to our attention from previous implementations.

Complete the Installation Guide up to the Training and Configuration section before the PSi Installation Specialist arrives. This will ensure your staff gets the most out of the scheduled training time.

Plan to operate the old system until you have tested NexGen Digital™ thoroughly. Once the staff is comfortable with the system, go on the air.

Leave your old system up as a backup until the staff is comfortable with NexGen Digital™.

We recommend you not advertise that you are switching to a new format on a particular date. Run the system for a while and then advertise that you are switching after you are already up and running.

Never switch on the air right before a holiday. There are many other distractions during a holiday – you and your staff will need to keep focused during the transition.

This is new technology and a different way of working - after you have switched over, have someone scheduled to watch it closely for at least one week.

Following is a Pre-Installation Checklist to guide you through initial preparation of your site. Please complete this checklist before continuing to the Equipment Set-Up section of this guide.

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Preparing for NexGen Digital™ Installation

- ☐ Wall Space - Have wall space behind racks prepared (preferably with plywood backing) for mounting of pre-wired 66 punch blocks.
- ☐ Racks - Racks must be 19" rack enclosures. Power strips should be mounted outside of the rear rail. We recommend Middle Atlantic WRK-44-32 Rack Enclosures with the WRK-RR44 Additional Rail Kit (44 Space).
- ☐ Power - A 20-amp dedicated circuit for each rack should be wired to an outlet or power strip.
- ☐ Modem Line - Technical Support uses remote access software to 'dial-in' for online training, upgrading the system, and troubleshooting. You need to have a dedicated modem line in place for this purpose.
- ☐ Audio Cable –There should be 13 stereo audio cables to each air studio, and 5 stereo audio cables to each production room. The cable should be pre-run to all studios and punched down to any in-studio blocks. Use Multi-Pair/Dual-Pair Broadcast Cables, 24 AWG.
- ☐ Satellite Wiring – The Audio Cable should also be readied for wiring audio and closures from the satellite receivers to the rack area for delayed broadcast feeds or live satellite switching.
- ☐ Tone Decoder - Verify all audio sources to be used. If there are more than eight, additional ACU-1 units may need to be ordered to accommodate all of your sources. If needed, purchase a tone decoder for all satellite sources.
- ☐ Control Board Inputs - The system will need up to 8 play modules for each control area. (Three or four for the Audio Server, and up to four for the Control Room CPU) Determine which networks must be connected to the satellite box switchers (ACU-1), including the programs to be recorded by the DRR. Confirm satellite sources.
- ☐ Control Cable – A 25-pair, CAT 5 trunk cable is needed for remote start and stops.
- ☐ HVAC – Generally, the rack room equipment will draw 20,000 - 30,000 Btu load. Usually a 2-3 ton AC capacity is necessary to keep the equipment at, or below, 72 degrees F.

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Equipment Set Up

Unpack, inspect, and set up the NexGen Digital™ equipment.

NexGen™ Digital Broadcast Equipment

This section outlines the steps involved with installing a NexGen Digital™ system. Your goal should be to get as much of the installation done before the arrival of the equipment and PSi Installation Specialist. This allows a greater training period for you and your staff.

Be sure to finish all items on the Pre-Installation checklist. (This was sent with your Welcome Package and was included in the previous section).

Unpack and Inspect Equipment

The NexGen Digital™ system will come as several boxes, the number of which is determined by the size of your system.

At times it may be quicker to “drop ship” components direct from our supplier. If this is the case, the parts will come in separate boxes to your address. You should have received a shipping list with the components shipped from your NexGen Digital™ supplier that will list all parts shipped and from where they were shipped. Please compare the items on the shipping list with the items received. If you are short a part, please call Technical Support at **877.774.1040**.

Inspection

Before connecting power to any of the equipment, inspect each component for shipping damage.

As you unpack, examine the equipment carefully and write down any damage that you observe. If equipment is visibly damaged, immediately call our toll-free support line at 877.774.1040.

Follow the manufacturer instructions enclosed with the equipment. The internal components are sensitive to and can be damaged by electrostatic discharge.

Check screws and electrical components inside the boxes and the equipment. If there are any loose parts, call technical support.

Ensure cards are seated firmly inside computers.

Save all manuals, warranty cards, boxes and original packing.

Set Up the Equipment

Each NexGen Digital™ system may consist of several different types of computers, including file servers, audio servers, real time editors, and workstations. Refer to the Site Diagrams Section for your specific site set-up.

Cabling

Map your cabling runs, and keep a copy for the PSi Installation Specialist. We recommend using shielded cable.

Plan out the control board inputs that the system will need, and determine which networks must be connected to satellite box switchers.

Determine the source location. Leave at least six feet of excess cable to allow for moving the equipment for testing and troubleshooting.

Avoid running over or near sources of notable EMI and RFI (i.e., transmitters, fluorescent lights, motors, and so forth).

Do not splice network cabling. Avoid sharp bends that kink the cabling.

Label all cable ends.

File Server

Once the file server is up and running it seldom needs any attention and should be secured as much as possible. Put it into a safe, cool, and clean location. Network switches should be located adjacent to the file servers for monitoring and emergency reassignment.

The file server location must contain a working phone within five feet of the servers. The phone must be capable of making outgoing long distance calls.

The environment needs to be static free and as stable as possible in temperature and humidity.

The hard drives need to be on a stable and static free surface. Do not locate them near printers.

The location should accommodate easy access to the sides, front, and back panels for emergency servicing.

Audio server

Put the audio server close to your audio chain. Once it is up and running, it seldom needs any attention. It does not need to be in your control room—an audio rack is a good place for it.

Most stations put the audio server next to the file server. The UPS (Uninterruptible Power Supply) included with the system for the file server is configured to be big enough to handle the audio server as well.

Control Room

If your control room needs to run in manual mode at times, you will need a workstation to allow you to manually control the audio server.

Place the computer in the studio where it can get adequate ventilation and where you can have easy access to the CD-ROM if CD/Extractor is to be used.

If access to the CD-ROM is not necessary, you may desire KVM extenders to relocate the computer outside of the studio.

Place it away from being in direct line of any microphones.

Digital Reel-to-Reel (DRR)

Place the DRR in the room where the switch can get access to all of the audio sources that will be brought in for recording. Usually, the DRR is placed close to the audio servers.

Real Time Editor (RTE)

Place the RTE in the room where you will be doing the editing, and where CD/Extractor is used.

NexGen Digital™ Workstation

Workstations can be located many different places – please consult your site diagrams to see where the purchaser of the system wanted the workstation placed.

Position monitors at least two feet away from any audio wires or audio source. Monitors produce high frequency noise that can be picked up by your audio wires.

Connect the monitor's power to a surge protector. The surge protectors have EMI and RFI suppression capabilities that will greatly reduce noise.

Mount switchers in racks. The location must be within 35 (dressed cable) feet from the associated workstation. Since switches are the audio and control centers of your system, make their location accessible from the front and back.

Ensure proper grounding on audio, control, and AC lines.

Connect and Power Up Equipment

Connect Network Cables (if applicable)

Ensure proper termination of all network connections. Try to spread the loads evenly.

Be sure to label all switches and network lines going to or from them.

Document the switch load assignments and keep a copy for the PSi Installation Specialist.

Connect network switch (es) to the file server(s).

Connect File Servers, Audio Servers, and Workstations. Inter-connect the file servers (if applicable).

Connect power to all surge protectors, line conditioners, or UPS units supplied with the system.

Connect UPS to AC power supply. Connect servers and computers to their respective UPS units. Any equipment that directly connects to the servers will need to be powered through the UPS.

If you have a hot standby file server, ensure that it and any associated (external) drives are powered through a different power supply than the main file server. This will limit the possibility of bringing both servers down with the loss of a single power supply.

Connect monitors, keyboard, mouse, and other peripherals. (i.e., drives, modems, switches)

Connect the monitor's power to a surge protector. The surge protectors have EMI and RFI suppression capabilities that will greatly reduce noise.

Connect the printer to the main file server. Do not connect any printers to the UPS. Printers cause a UPS to drain very quickly and are not mission-critical during a power failure.

Power Up Equipment

Power up the SCSI drives and all other peripherals attached to the servers (i.e., monitors, hubs, printers).

Power up the workstation peripherals (i.e., monitors, drives, switchers, modems).

Power up the file servers. Watch for the SCSI drive count, IDs, and errors in the boot-up process. Once the file server has reached the network monitor screen, the file server should be ready for workstations to log in.

Power up the workstations. Watch for boot process errors.

Connect Audio Lines to Workstations and Audio Servers

Start with production rooms. This will allow the dub-in processes to begin.

Use proper grounding and shielding techniques to minimize ground loop and RFI problems.

Workstations can provide a balanced or unbalanced output – be sure to interconnect properly.

Connect the control room workstation outputs to desired console or switcher inputs via supplied male DB-9 connection.

Connect control room workstation inputs to desired audio sources via the supplied male DB-9 connectors.

Connect production room workstation outputs to desired console inputs via supplied male DB-9 connectors. A full real-time editor workstation requires four discrete console input channels.

Connect production room workstation inputs to desired console bus feed via the supplied male DB-9 connectors.

Connect audio server outputs to switch input (use input # 2). Audio server outputs must be sub-mixed into a single satellite box switcher input. Active mixing is required if audio server outputs must also appear discretely on the control room console. Passive mixing or simple ganging will work for most satellite applications.

Connect other desired sources to satellite box switcher inputs. Refer to the online help for suggested input assignments. This will allow you to use configuration default settings.

Connect the satellite box switcher outputs to “air chain”.

Install a bypass switch to hard-wire routed control room console program output (typically, switcher input #1) to satellite box outputs. A bypass route must be available, to allow for switcher maintenance.

Connect desired sources to DRR inputs.

Connect control lines

Use proper shielding techniques to minimize ground loop and RFI problems.

Since you are installing this system while an existing system must remain operative, you should plan for and provide dry contacts for each system. For every control function needed by the system, two independent sets of dry contacts should exist.

Use the satellite box MPX grounds whenever possible. The MPX grounds allow for multiple input controls without undesired interaction of OPTOs.

Connect logic to satellite box OPTO inputs and DRR OPTO inputs.

Use the DRR box MPX grounds whenever possible. The MPX grounds allow for multiple input controls without undesired interaction of OPTOs.

The DRR OPTOs are mapped in the DRR machine configuration menu. This is the configuration for the layout:

DRR Device #1	DRR Device #2	DRR Device #3
OPTO # 1 - record/start	OPTO # 7 - record/start	OPTO #12 - record/start
OPTO # 2 - record/stop	OPTO # 8 - record/stop	OPTO #13 – record/stop
OPTO # 3 - user-assignable	OPTO # 9 - user-assignable	OPTO #14 - user-assignable
OPTO # 4 - user-assignable	OPTO #10 - user-assignable	OPTO #15 - user-assignable
OPTO # 5 - user-assignable	OPTO #11 - user-assignable	OPTO #16 - user-assignable
OPTO # 6 - user-assignable		

Note that the user-assignable OPTOs can be assigned as any one type from the following list:

Liner A	Liner B	Liner C
Liner D	Liner E	Liner F
Liner G	Legal ID	Spot Block

If multiple DRR switches are used, all OPTOs will be received only through the first DRR switch.

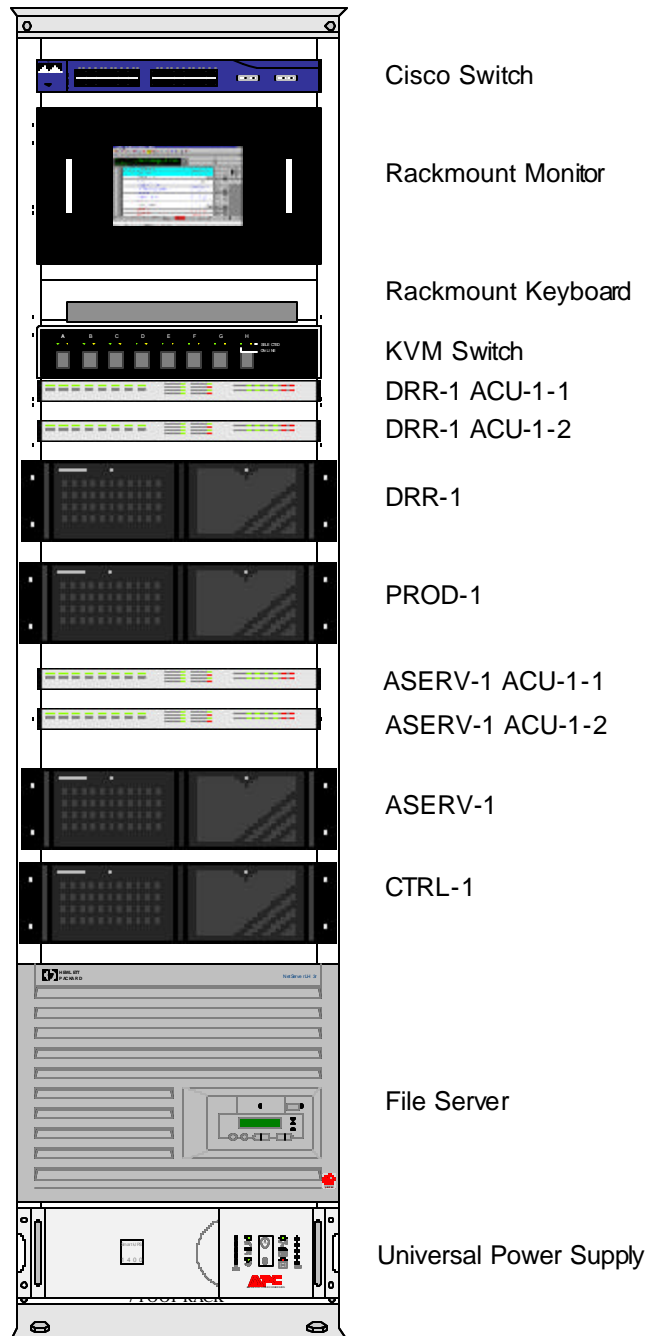
Site Diagrams

Sample and Site-Specific Diagrams for NexGen Digital™ Equipment

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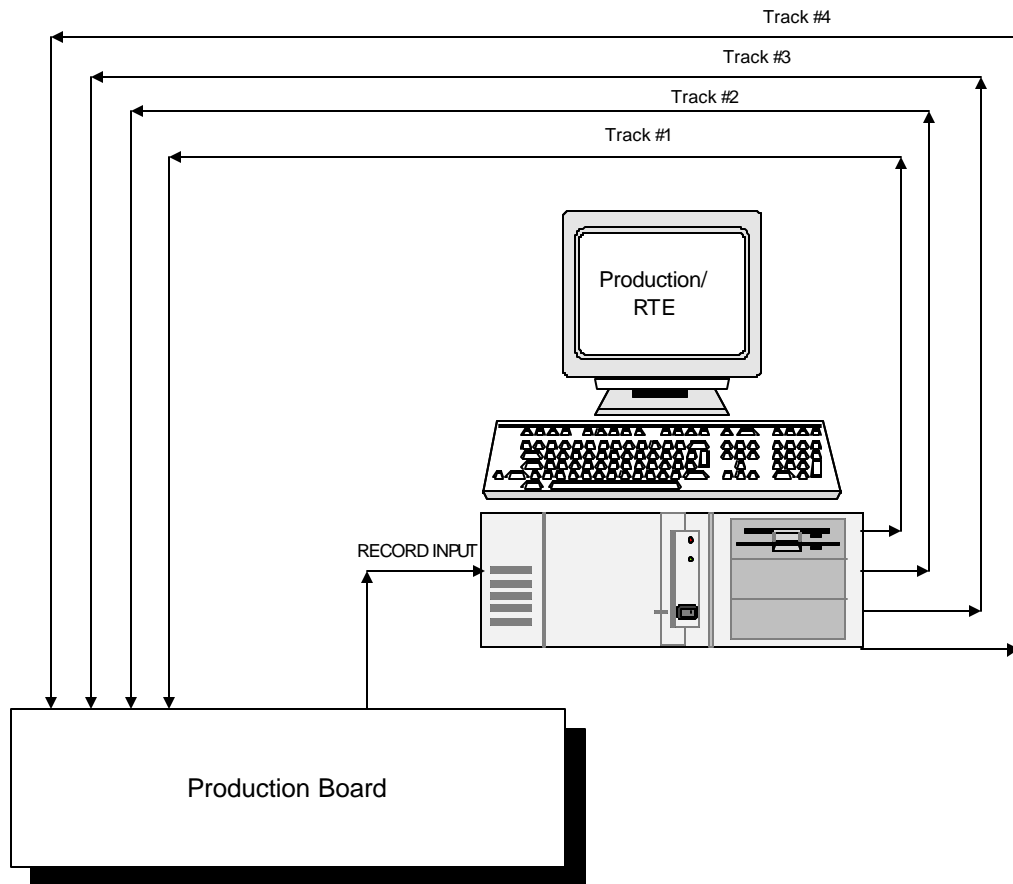
Sample Rack Mount Configuration (One Station)



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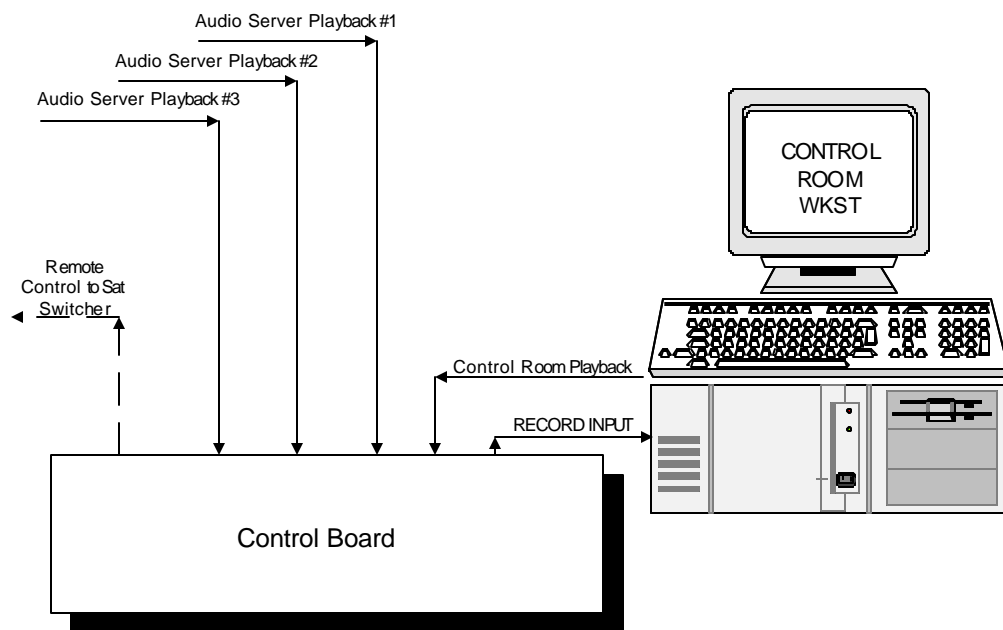
Sample Production/Real Time Editor Configuration



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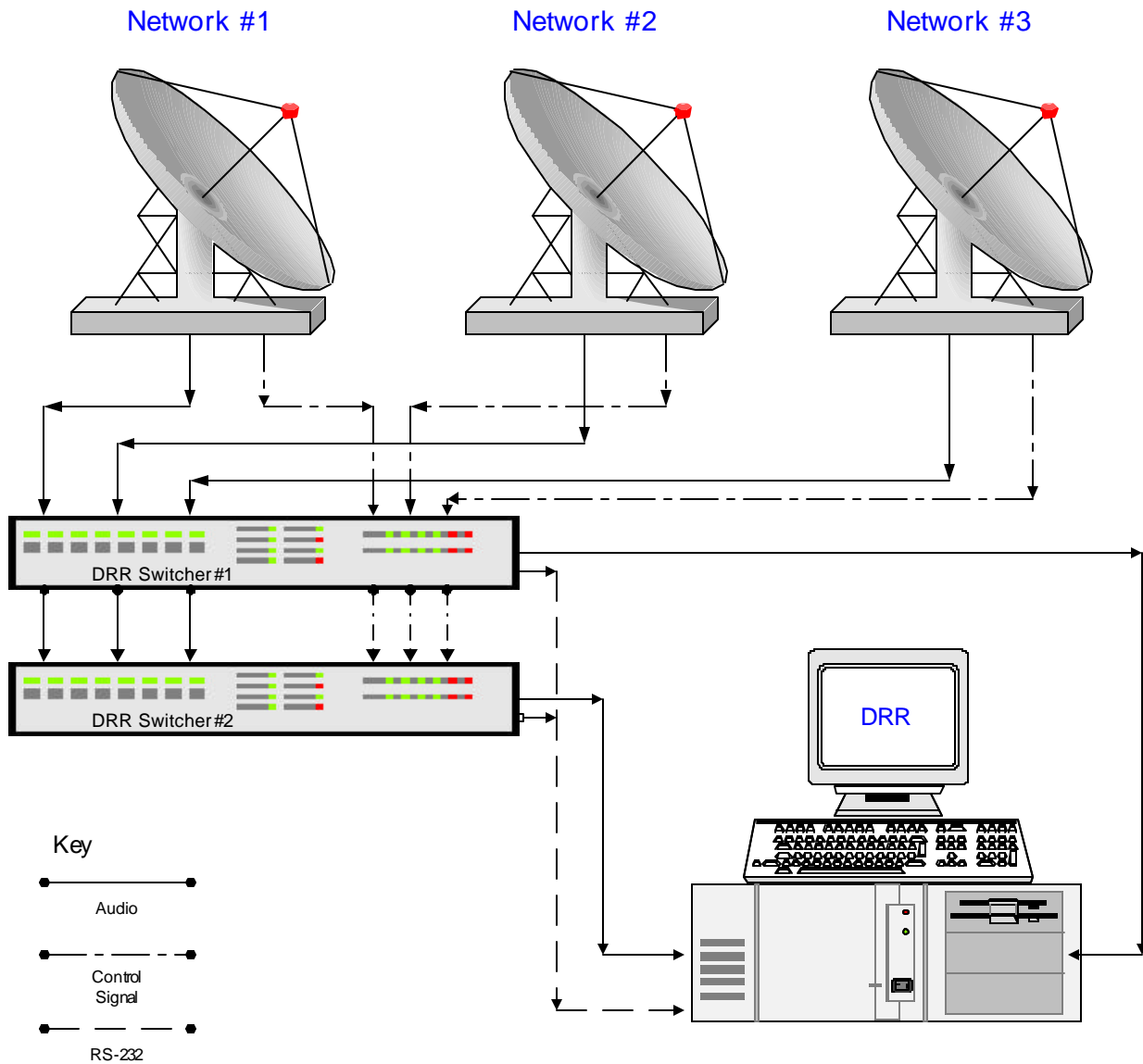
Sample Control Room Configuration



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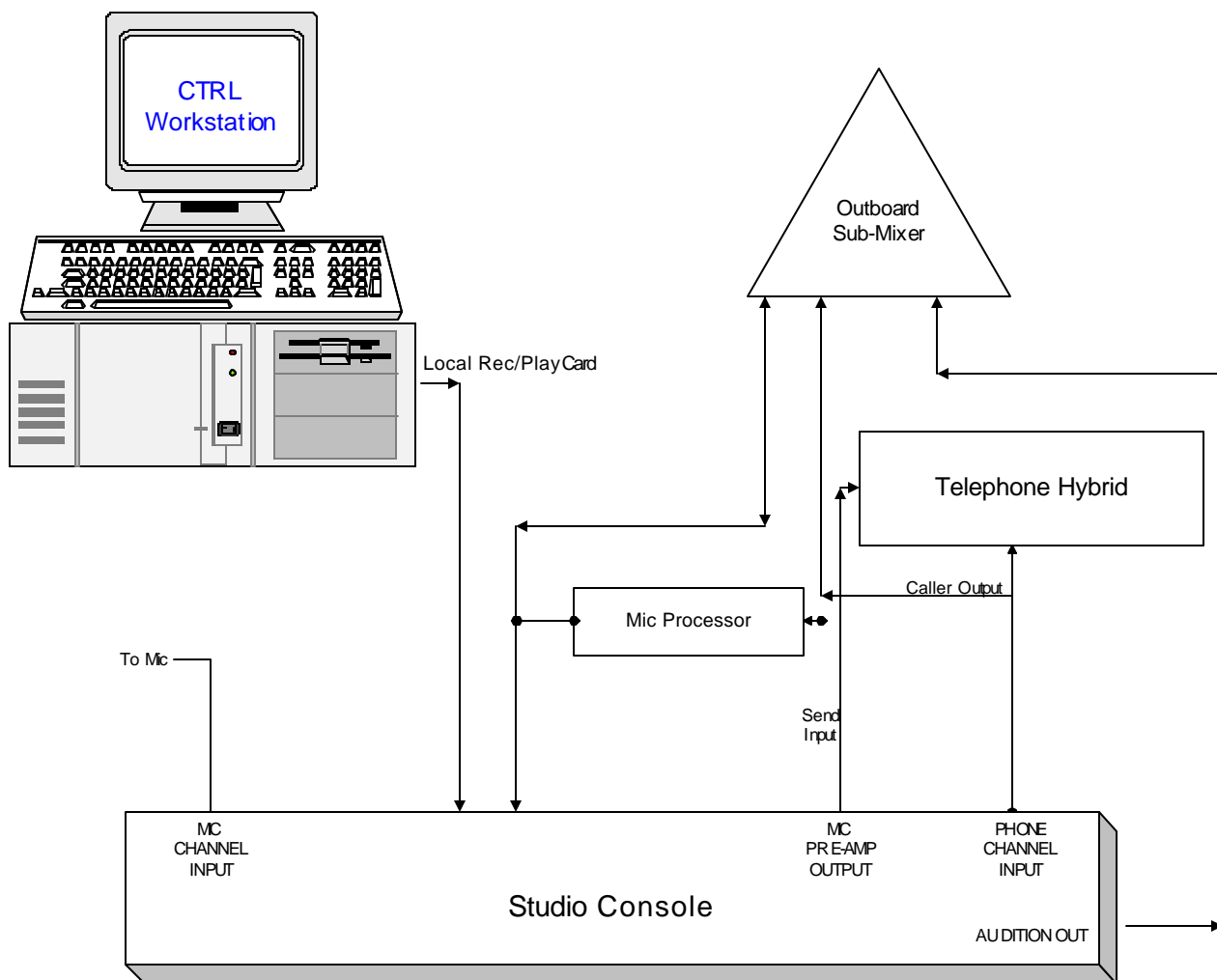
Sample Digital Reel To Reel Workstation



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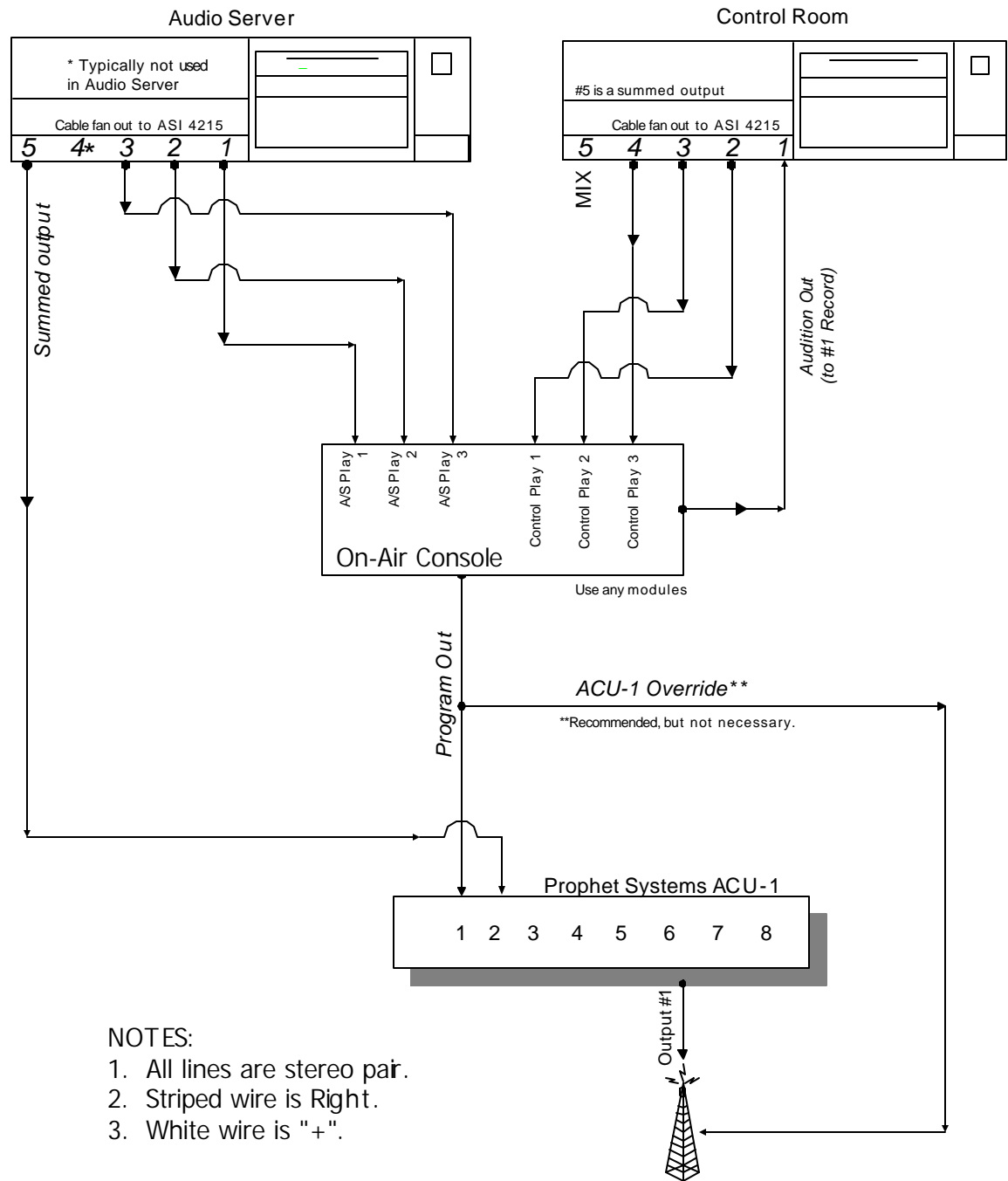
Sample Phone System Configuration



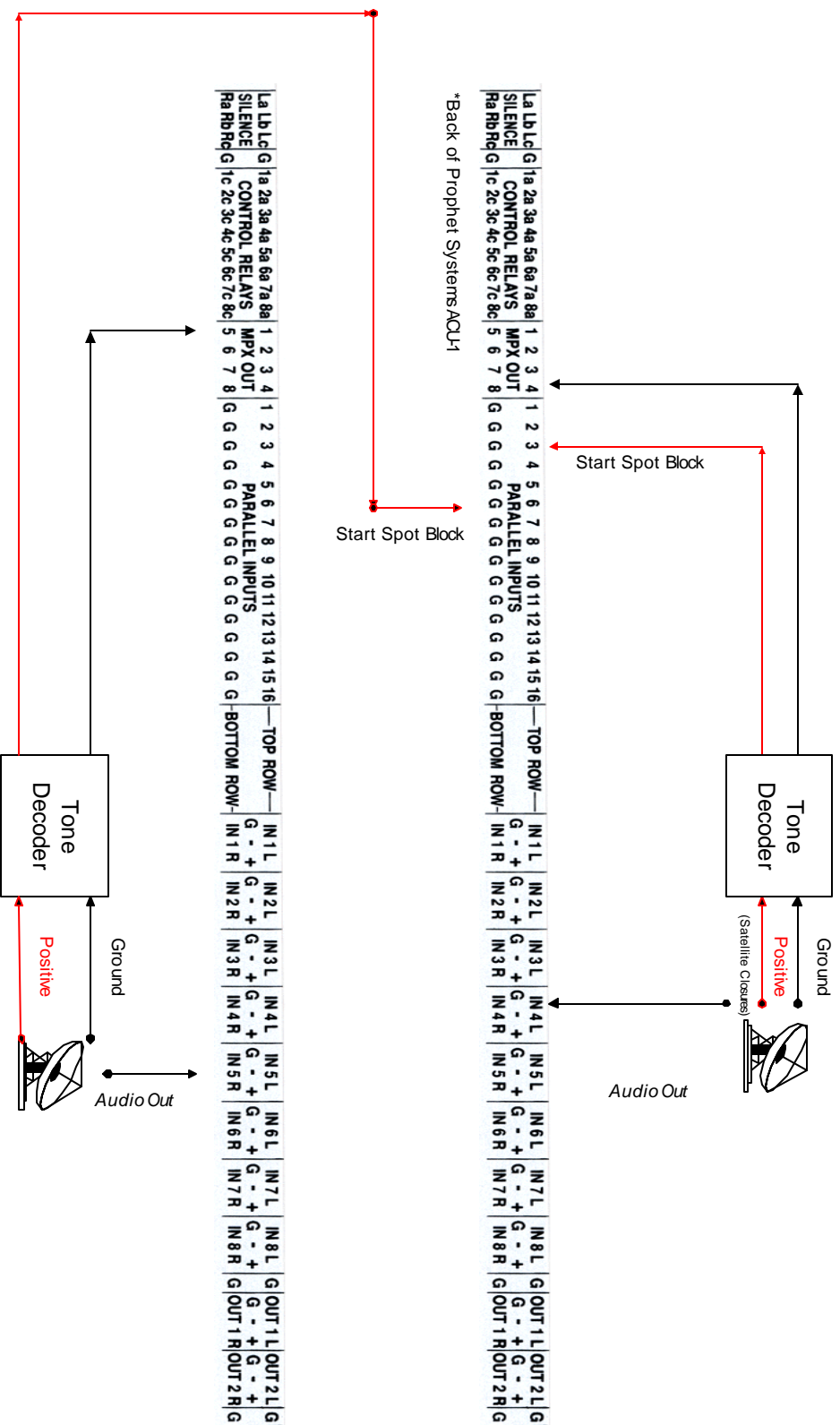
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Prophet Systems Basic Audio Wiring Diagram (Using AudioScience 4215 Audio Cards)



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ACU-1 DEVICE ASSIGNMENT

An easy method for assigning ACU-1's to the proper device # 1, 2, or 3.

1. Press and hold the # 1 and # 3 source numbers simultaneously until the POWER/SYNC indicator lamp is flashing. This indicates the box is in the programming mode.
2. Notice which source indicator lamp is lit. If # 8 is on, the ACU-1 is set to device 1. Number 7 on would indicate it is set to device 2 and both 7 and 8 would mean it is set to be device 3.
3. To change the setting from device 1 to device 2 momentarily press # 8. This will change the source display from 8 to 7. Pressing # 8 again will set the ACU-1 to device 3; both 7 and 8 are lit. If you want to change a device from # 3 to # 2, press # 7 and it will deduct one from the device assignment number and in this case the ACU-1 will have only #7 lit which indicates device2. Pressing #7 again will set it to device #1.
4. Once set to the proper device number, press # 2 to exit the programming mode.

For you binary counters, do a binary count of the device #.

01=1

10=2

11=3

DRR Timing Worksheet - AM

[illegible]

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DRR Timing Worksheet - PM

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Supplier Information

User Guides for ASI 4215 Audio Card, SeaLevel PCI Card, and
ACU-1 Audio Control Unit

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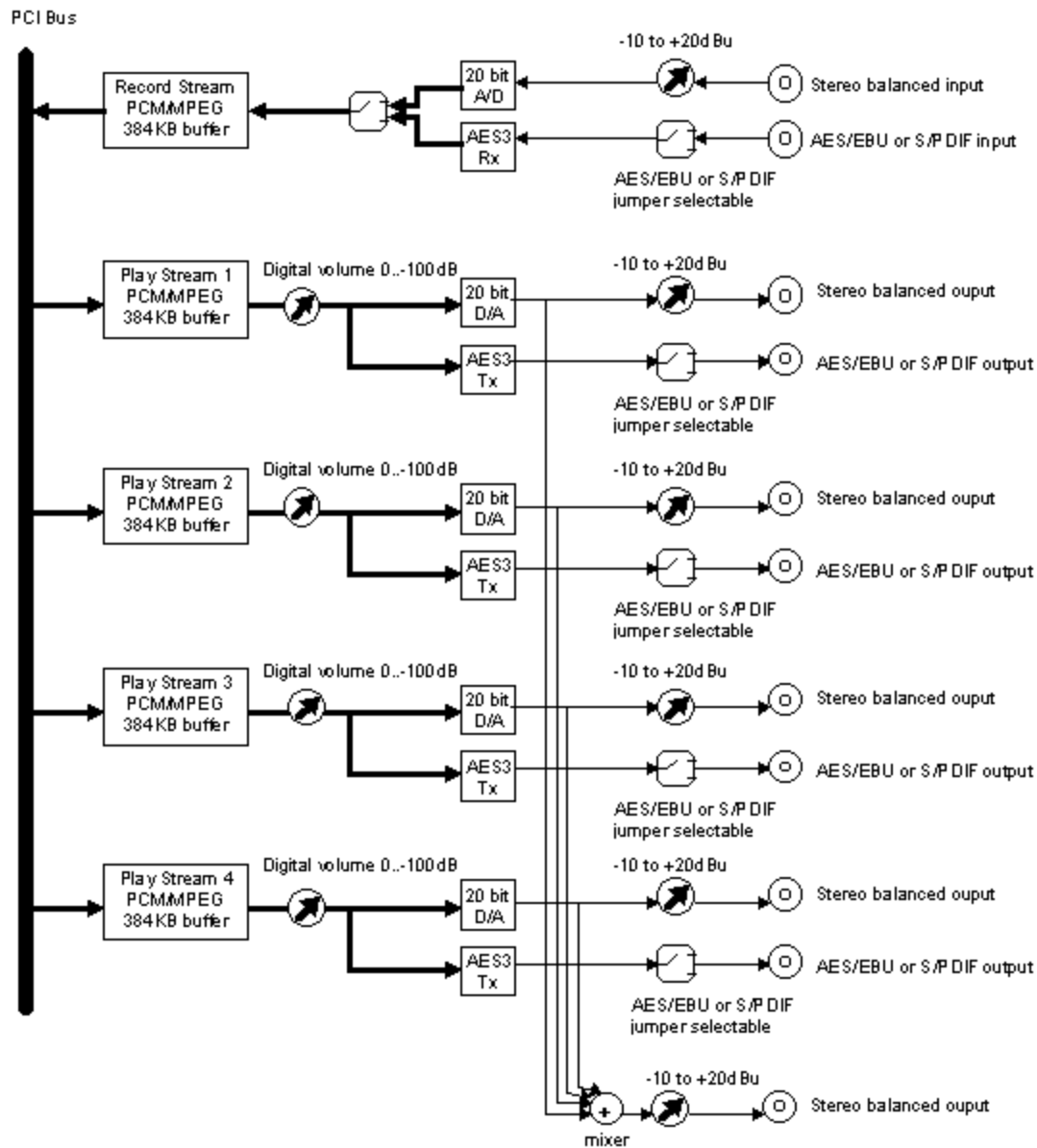
ASI4215

Record/Play MPEG Audio Adapter

The AudioScience ASI4200 family of digital audio adapters enable multi-stream recording and reproduction of MPEG Layer 2 digital audio on the PC platform. Utilizing the 32bit PCI bus and the latest generation of 24bit DSPs from Motorola, these cards were designed to deliver the highest performance available to the broadcast industry.

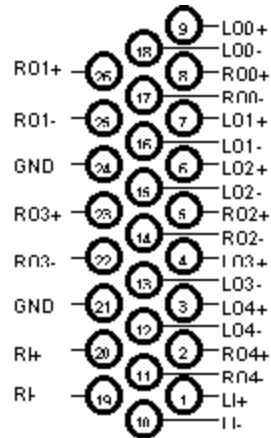


BLOCK DIAGRAM

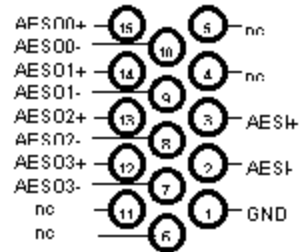


CONNECTORS

Analog I/O - 26pin High Density DB



Digital I/O - 15pin High Density DB



SPECIFICATIONS

ANALOG INPUT

Type	Balanced
Connector	Female DB-26 High-density
Level	-10 to +26dBu in 0.5dBu steps
Impedance	20K ohms
A/D converter	20bit, 128X Oversampling
S/N Ratio[1]	92dB minimum
THD+N[2]	88dB minimum
Sample Rates	8 to 50kHz with 100Hz resolution
Frequency Response	20Hz to 20kHz +/-1dB

ANALOG OUTPUTS

Type	Balanced
Connector	Female DB-26 High-density
Level	-10 to +24dBu in 0.5dBu steps
Load Impedance	600ohms or greater
D/A converter	20bit, Oversampling
S/N Ratio[1]	92dB minimum
THD+N[2]	90dB minimum
Sample Rates	8 to 50kHz with 100Hz resolution
Frequency Response	20Hz to 20kHz +/-1dB

DIGITAL INPUT

Type	AES/EBU - (EIAJ CP-340 TypeI / IEC-958 Professional) S/PDIF - (EIAJ CP-340 TypeII / IEC-958 Consumer)
Connector	Female DB-15 High-density
Sample Rates	32, 44.1 and 48kHz

DIGITAL OUTPUT

Type	AES/EBU - (EIAJ CP-340 TypeI / IEC-958 Professional) S/PDIF - (EIAJ CP-340 TypeII / IEC-958 Consumer)
Connector	Female DB-15 High-density
Sample Rates	32, 44.1 and 48kHz

SIGNAL PROCESSING

DSP	80MHz Motorola DSP56301
Audio Formats	8 bit unsigned PCM 16bit signed PCM MPEG-1 Layer 1 (Decode only) MPEG-1 Layer 2

GENERAL

Dimensions	PCI form factor - 9" x 4.5" x 0.6" (225mm x 115mm x 15mm)
Weight	16 oz (454g) max
Operating Temperature	0C to 70C
Power Requirements	+5V @ TBDmA +12V @ TBDmA -12V @ TBDmA

[1] - S/N Ratio is the difference between a 1kHz +14dBu sinewave and digital zero using an A weighting filter

[2] - THD+N measured using a +14dBu 1kHz sinewave sampled at 48kHz and A weighting filter

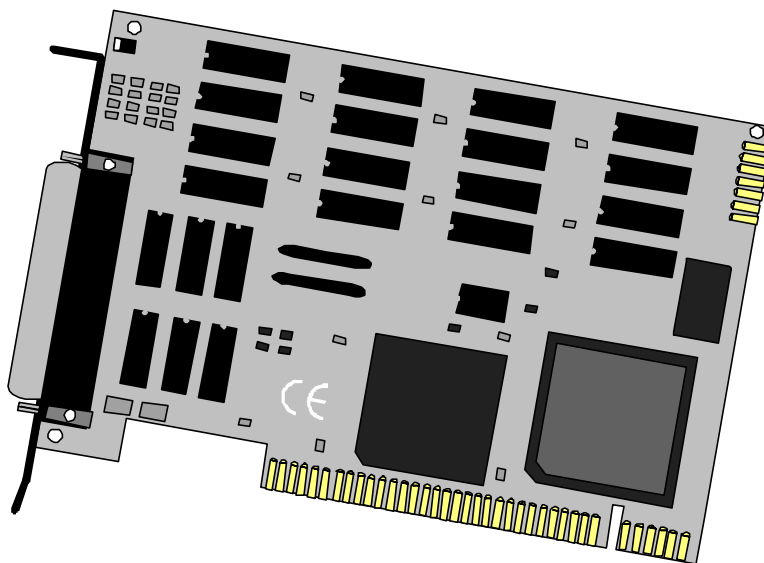
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SEALEVEL

SYSTEMS INCORPORATED

DIO-32.PCITM

USER MANUAL



Part # 8004

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155 Technology Place
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Contents

INTRODUCTION	1
OVERVIEW	1
WHAT'S INCLUDED.....	1
INSTALLATION.....	1
CARD SETUP.....	1
FOR WINDOWS USERS	1
TECHNICAL DESCRIPTION.....	2
FEATURES	2
INPUT PORTS	2
Sensor Input Ports Pin Assignments	4
OUTPUT PORTS (REED RELAY).....	4
Relay Specifications	4
Output Ports (Reed Relay) Pin Assignments	5
SOFTWARE	5
PROGRAMMING	6
APPLICATION PROGRAMMERS INTERFACE (API)	6
Interrupts.....	6
Relative Addressing Vs. Absolute Addressing	6
DIRECT HARDWARE CONTROL	8
Reading the Inputs (direct) :.....	8
Reading the Outputs (relays) (direct) :	8
Writing the Outputs (relays) (direct) :	8
Interrupts.....	8
REGISTER DESCRIPTION.....	9
SPECIFICATIONS.....	10
ENVIRONMENTAL SPECIFICATIONS.....	10
POWER CONSUMPTION	10
MEAN TIME BETWEEN FAILURES (MTBF)	10
PHYSICAL DIMENSIONS.....	10
APPENDIX A - TROUBLESHOOTING.....	11

APPENDIX B - HOW TO GET ASSISTANCE..... 12

APPENDIX C - SILK-SCREEN..... 13

APPENDIX D - COMPLIANCE NOTICES 14

 FEDERAL COMMUNICATIONS COMMISSION STATEMENT 14

 EMC DIRECTIVE STATEMENT 14

WARRANTY..... 15

Introduction

Overview

The **DIO-32.PCI** provides 16 reed relays that can latch power, data or other electronic signals for control applications and 16 optically isolated inputs to allow monitoring of off board switch closures, relays or for any other general purpose monitoring needs. The **DIO-32.PCI** is PCI 2.1 bus compliant. Addressing, data and control signals are TTL compatible.

What's Included

The **DIO-32.PCI** is shipped with the following items. If any of these items are missing or damaged, contact the supplier.

- **DIO-32.PCI** Interface Adapter
- Sealevel Systems' Software

Installation

Card Setup

The **DIO-32.PCI** is a fully compliant PCI 'Plug and Play' adapter. All card resources (i.e. I/O address and IRQ) are auto-assigned by either your system BIOS or your 'Plug and Play' operating system.

For Windows Users

Choose **Install Software** at the beginning of the CD and select the **Digital I/O** software drivers and install **SeaIO.System Installation**.

The **DIO-32.PCI** can be installed in any of the PCI expansion slots.

1. Turn off PC power. Disconnect the power cord.
2. Remove the PC case cover.
3. Locate an available PCI slot and remove the blank metal slot cover.
4. Gently insert the **DIO-16.PCI** into the slot. Make sure that the adapter is seated properly.
5. Replace the screw.
6. Replace the cover.
7. Connect the power cord. Installation is complete.

Technical Description

The **DIO-32.PCI** provides four parallel input/output (I/O) ports. The ports are organized as ports A, B, C, and D. Port A and B are input ports interfaced to optically-isolated inputs, while ports C and D are reed relay output ports. Assuming an I/O address of 300 Hex the following table shows the Port Addresses.

Base Address	Hex	Decimal	Mode
Port A Address	300	768	Input Port (Opto Input)
Port B Address	301	769	Input Port
Port C Address	302	770	Output Port (Reed Relays)
Port D Address	303	771	Output Port

Features

- Selectable I/O port addressing from 100H - 3FFH
- 2 sets SPST relays with each set having 8 relays
- 2 eight bit input ports
- DB-37 male connector for relay outputs
- DB-37 female connector for optically isolated inputs
- Highly reliable 10 VA DIP reed relays utilized
- Multiple adapters can reside in same computer
- All address, data and control signals are TTL compatible

Input Ports

Ports A and B are 8 bit input ports connected to optically isolated input sensors. Each sensor can be used to interface a voltage input and then sense whether the voltage is on or off. Each sensor is isolated (with respect to a common ground) from every other sensor, and also isolated with respect to the host PC ground. This means that signals such as low-level AC line voltage, motor servo voltage, and control relay signals can be 'sensed', or read by the PC, without the risk of damage due to ground loops or ground faults.

Each sensor input pair has a current limiting resistor that is used to limit the input current to the opto-isolator. The opto-isolator has two 'back-to-back' diodes internally. This allows AC or DC signals to be sensed, regardless of polarity. When the applied voltage is high enough to cause the led in the opto-isolator to turn-on, the output of the opto-isolator goes low (0 volts) and the signal is read as a low logic level (binary 0) by the PC. When the input signal is too low to turn on the opto-isolator, the output goes high and the port bit is read by the PC as a high logic level (binary 1).

Technical Description

The input impedance of each isolated input is approximately 560 ohms (factory default). The opto-isolator requires approximately 3 mA to turn on. The maximum input current is 60 mA. Two things to consider when selecting the input resistor. The first is turn on voltage for the circuit to sense, and second is the maximum input voltage. Maximum input voltage must not provide too much power to the input resistor, and must also not overdrive the opto-isolator input current specification. The following formulas apply:

Turn on current: 3 mA

Isolator diode drop: 1.1 V

Resistor power Max: .25 W

Turn on Voltage = diode drop + (turn on current) x (resistance)

Or :

$$1.1 + (.003) \times R$$

Maximum voltage = square root of (.25 (resistor value))

The following table shows four common input resistors and the ranges associated with each .

Input Resistor (Ohms)	Value Turn-On (Volts)	Max Input Range (Volts)	Max Current (mA)
220	1.76	7	27
560	2.8	12	20
1K	4.1	16	15
2.2K	7.7	24	10

The maximum input voltage can be increased by increasing the input resistor accordingly. Because socketed DIP resistor networks are utilized, they can easily be replaced with a different value. This can be done at the factory, if necessary. The input circuits are not intended for monitoring 120 volt AC circuits. In addition to being too high a voltage for the circuits, it is dangerous to have that high a voltage on the card.

Sensor Input Ports Pin Assignments
(DB-37 Female Labeled as Input)

Port A Bit	P1	Port B Bit	P1
0	18,37	0	10,29
1	17,36	1	9, 28
2	16,35	2	8,27
3	15,34	3	7,26
4	14,33	4	6,25
5	13,32	5	5,24
6	12,31	6	4,23
7	11,30	7	3,22
Ground	2,20,21		
+ 12 Volts	19		
+ 5 Volts	1		

Output Ports (Reed Relay)

Reed relays provide very high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are not suited for high current applications, and can be destroyed by inductive load switching, where a spark occurs across the contacts internally. The relays are normally open, and close when energized. Each relay can be individually energized by writing a '1' to the proper port bit.

Relay Specifications

- Contact Power Ratings: 10 Watts Maximum
- Contact Voltage Maximum: 100 Volts DC or AC Maximum
- Contact Current Maximum: .5 Amps DC or AC RMS
- Contact Resistance, Initial: .15 Ohms
- Rated Life:
 - Low Load: 200 Million Closures
 - Maximum Load: 100 Million Closures
- Contact Speed:
 - Operate: .5 mS
 - Release: .5 mS
 - Bounce: .5 mS
- Maximum Operating Speed: 600 Hertz

Output Ports (Reed Relay) Pin Assignments
(DB-37 Male Labeled as Output)

Port C Bit	Relay	P2 Pin	Port D Bit	Relay	P2 Pin
0	K16	2,20	0	K8	10,28
1	K15	3,21	1	K7	11,29
2	K14	4,22	2	K6	12,30
3	K13	5,23	3	K5	13,31
4	K12	6,24	4	K4	14,32
5	K11	7,25	5	K3	15,33
6	K10	8,26	6	K2	16,34
7	K9	9,27	7	K1	17,35
Ground	18,36,37				
+ 5 Volts	19				
+ 12 Volts	1				

Software

The **DIO-32.PCI** ships with Sealevel Systems' SeaI/O suite of Windows 95/98/NT drivers. SeaI/O provides the user with a consistent and straightforward API, allowing the developer to concentrate on the details of the application as opposed to low level driver development. Popular development environments, including Visual C++, Visual Basic, and Delphi, are supported for application development. SeaI/O includes a utility for configuring the driver parameters under Windows 95/98 and Windows NT, further simplifying installation.

For DOS, QNX, Linux and other operating systems, please refer to the software included with your card.

Programming

Application Programmers Interface (API)

Most modern operating systems do not allow direct hardware access. The SeaIO driver and API have been included to provide control over the hardware in Windows and Linux environments.

The purpose of this section of the manual is to help the customer with the mapping of the API to the actual inputs and relays for the 8004 specifically. Complete documentation of the API can be found in its accompanying help file.

Interrupts

Interrupt sampling can be set up in the API. Port A bit zero is the interrupt source. Refer to the API help file for more detailed information.

Relative Addressing Vs. Absolute Addressing

The SeaIO API makes a distinction between “absolute” and “relative” addressing modes. In absolute addressing mode, the Port argument to the API function acts as a simple byte offset from the base I/O address of the device. For instance, Port #0 refers to the I/O address base + 0; Port #1 refers to the I/O address base + 1.

Relative addressing mode, on the other hand, refers to input and output ports in a logical fashion. With a Port argument of 0 and an API function meant to output data, the first (0th) output port on the device will be utilized. Likewise, with a Port argument of 0 and an API function designed to input data, the first (0th) input port of the device will be utilized.

In all addressing modes, port numbers are zero-indexed; that is, the first port is port #0, the second port is #1, the third #2, and so on.

Technical Description

Tables : API Port/bit reference numbers for Absolute and Relative Addressing

R = Read

W = Write

R/W = Read or Write

Port	API Port # Absolute Address (function)	API Port # Relative Address (function)	Port Type
A	0 (R)	0 (R)	Input Port (Opto Input)
B	1 (R)	1 (R)	Input Port
C	2 (R/W)	0 (W)	Output Port (Reed Relays)
D	3 (R/W)	1 (W)	Output Port

API Bit # Absolute Address (function)	API Bit # Relative Address (function)	Port Bit
0 (R)	0 (R)	A0 - Input
1 (R)	1 (R)	A1 - Input
2 (R)	2 (R)	A2 - Input
3 (R)	3 (R)	A3 - Input
4 (R)	4 (R)	A4 - Input
5 (R)	5 (R)	A5 - Input
6 (R)	6 (R)	A6 - Input
7 (R)	7 (R)	A7 - Input
8 (R)	8 (R)	B0 - Input
9 (R)	9 (R)	B1 - Input
10 (R)	10 (R)	B2 - Input
11 (R)	11 (R)	B3 - Input
12 (R)	12 (R)	B4 - Input
13 (R)	13 (R)	B5 - Input
14 (R)	14 (R)	B6 - Input
15 (R)	15 (R)	B7 - Input
16 (R/W)	0 (W)	C0 - Output
17 (R/W)	1 (W)	C1 - Output
18 (R/W)	2 (W)	C2 - Output
19 (R/W)	3 (W)	C3 - Output
20 (R/W)	4 (W)	C4 - Output
21 (R/W)	5 (W)	C5 - Output
22 (R/W)	6 (W)	C6 - Output
23 (R/W)	7 (W)	C7 - Output
24 (R/W)	8 (W)	D0 - Output
25 (R/W)	9 (W)	D1 - Output
26 (R/W)	10 (W)	D2 - Output
27 (R/W)	11 (W)	D3 - Output
28 (R/W)	12 (W)	D4 - Output
29 (R/W)	13 (W)	D5 - Output
30 (R/W)	14 (W)	D6 - Output
31 (R/W)	15 (W)	D7 - Output

Direct Hardware Control

In systems where the users program has direct access to the hardware (DOS) the table below gives the mapping and functions that the 8004 provide. The address of each eight-bit port is calculated as shown in the table on the following page, the cards base address plus an offset.

Reading the Inputs (direct) :

The inputs are active Low. If no voltage is applied across one of the differential inputs it returns a one on that bit. If an AC or DC voltage (of sufficient magnitude, covered above) is applied it returns a zero on that bit.

Reading the Outputs (relays) (direct) :

The relay ports return the ones complement of the value that is currently being used to drive the relays. When using the API the value is returned not the complement of the value.

Writing the Outputs (relays) (direct) :

The output ports are the only ports that can be written. The relays on a standard 8004 are normally open. To close a relay a one must be written to the appropriate bit.

Interrupts

Interrupts can be set up as shown on the following page. Port A bit zero is the interrupt source.

R = Read
W = Write
R/W = Read or Write

Function Available	Port	Address Hex	Port Type
R	A	Base + 0	Input Port (Opto Input)
R	B	Base + 1	Input Port
R/W	C	Base + 2	Output Port (Reed Relays)
R/W	D	Base + 3	Output Port

Register Description

Address	Mode	D7	D6	D5	D4	D3	D2	D1	D0
Base+0	R	PAD7	PAD6	PAD5	PAD4	PAD3	PAD2	PAD1	PAD0
Base+1	R	PBD7	PBD6	PBD5	PBD4	PBD3	PBD2	PBD1	PBD0
Base+2	R/W	PCD7	PCD6	PCD5	PCD4	PCD3	PCD2	PCD1	PCD0
Base+3	R/W	PDD7	PDD6	PDD5	PDD4	PDD3	PDD2	PDD1	PDD0
Base+4	R	{0}	{0}	{0}	{0}	{0}	{0}	{0}	{0}
Base+5	R/W	IRQEN	IRQST	{0}	{0}	{0}	{0}	IRC1	IRC0
Base+6	R	{0}	{0}	{0}	{0}	{0}	{0}	{0}	{0}
Base+7	R	{0}	{0}	{0}	{0}	{0}	{0}	{0}	{0}

Note: All ports are set to input after reset or power up. Interrupt source is Base+0 bit D0. When selecting the Interrupt Mode, always disable interrupts prior to changing or setting states. This will help prevent inadvertent or un-expected interrupts from occurring. When using the high and low level interrupts, a change in state of the input must occur before the interrupt can be cleared. The device providing the input to Base +0, bit D0 must do this.

PAD0-7 = Port A (Base+0)
PBD0-7 = Port B (Base+1)
PCD0-7 = Port C (Base+2)
PDD0-7 = Port D (Base+3)

IRC0-1= Interrupt Mode select (Base+5)

IRC1	IRC0	
0	0	low level
0	1	high level
1	0	falling edge
1	1	rising edge

IRQEN = enable interrupts (Base+5)

0 = disabled
1 = enabled (disabled after reset or power up).

IRQST = interrupt status (Base+5)

1 = interrupt pending (reading the bit clears interrupt). Bit can not be written.

Specifications

Environmental Specifications

Specification	Operating	Storage
Temperature Range	0° to 50° C (32° to 122° F)	-20° to 70° C (-4° to 158° F)
Humidity Range	10 to 90% R.H. Non-Condensing	10 to 90% R.H. Non-Condensing

Power Consumption

Supply line	+12 VDC	+5 VDC
Rating	Optional Use	450mA

Mean Time Between Failures (MTBF)

MTBF is calculated as greater than 150,000 hours, **excluding relays**.

Relay Life expectancy is dependent on actual application usage.

Physical Dimensions

Board length	6.00 inches	(15.24 cm)
Board Height including Goldfingers	4.2 inches	(10.668 cm)
Board Height excluding Goldfingers	3.825 inches	(9.716 cm)

Note: Please see Appendix D for board layout and dimensions.

Appendix A - Troubleshooting

Following these simple steps can eliminate most common problems without the need to call Technical Support.

1. Install software **first**. After installing the software then proceed to adding the hardware. This places the required installation files in the correct locations.
2. Identify all I/O adapters currently installed in your system. This includes your on-board serial ports, controller cards, sound cards etc. The I/O addresses used by these adapters, as well as the IRQ (if any) should be identified.
3. Ensure that there is no conflict with currently installed adapters. No two adapters can occupy the same I/O address and may not be allowed to share IRQs.
4. Make sure the Sealevel Systems adapter is securely installed in a motherboard slot.

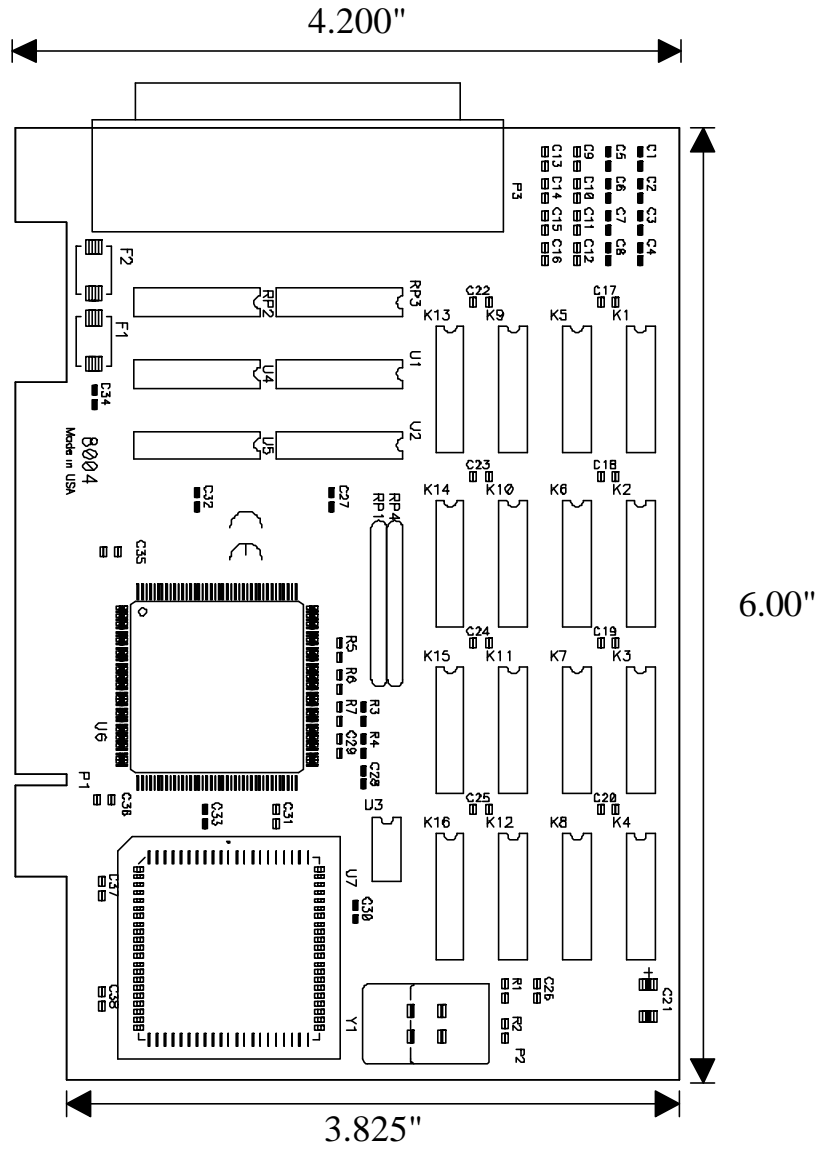
Appendix B - How To Get Assistance

Please refer to Troubleshooting Guide prior to calling Technical Support.

1. Read this manual thoroughly before attempting to install the adapter in your system.
2. When calling for technical assistance, please have your user manual and current adapter settings. If possible, please have the adapter installed in a computer ready to run diagnostics.
3. Sealevel Systems maintains a Home page on the Internet. Our home page address is www.sealevel.com. The latest software updates, and newest manuals are available via our FTP site that can be accessed from our home page.
4. Technical support is available Monday to Friday from 8:00 a.m. to 5:00 p.m. eastern time. Technical support can be reached at (864) 843-4343.

RETURN AUTHORIZATION MUST BE OBTAINED FROM SEALEVEL SYSTEMS BEFORE RETURNED MERCHANDISE WILL BE ACCEPTED. AUTHORIZATION CAN BE OBTAINED BY CALLING SEALEVEL SYSTEMS AND REQUESTING A RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER.

Appendix C - Silk-Screen



Appendix D - Compliance Notices

Federal Communications Commission Statement

FCC - This equipment has been tested and found to comply with the limits for Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in such case the user will be required to correct the interference at his own expense.

EMC Directive Statement



Products bearing the CE Label fulfill the requirements of the EMC directive (89/336/EEC) and of the low-voltage directive (73/23/EEC) issued by the European Commission.

To obey these directives, the following European standards must be met:

- **EN55022 Class A** - "Limits and methods of measurement of radio interference characteristics of information technology equipment"
- **EN55024** - Information technology equipment Immunity characteristics Limits and methods of measurement.
- **EN60950 (IEC950)** - "Safety of information technology equipment, including electrical business equipment"

Warning

This is a Class A Product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Always use cabling provided with this product if possible. If no cable is provided or if an alternate cable is required, use high quality shielded cabling to maintain compliance with FCC/EMC directives.

Warranty

Sealevel Systems, Inc. provides a lifetime warranty for this product. Should this product fail to be in good working order at any time during this period, Sealevel Systems will, at its option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Sealevel Systems assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Sealevel Systems will not be liable for any claim made by any other related party.

RETURN AUTHORIZATION MUST BE OBTAINED FROM SEALEVEL SYSTEMS BEFORE RETURNED MERCHANDISE WILL BE ACCEPTED. AUTHORIZATION CAN BE OBTAINED BY CALLING SEALEVEL SYSTEMS AND REQUESTING A RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER.

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Monday - Friday

Trademarks

Sealevel Systems, Incorporated acknowledges that all trademarks referenced in this manual are the service mark, trademark, or registered trademark of the respective company.

DIO-32.PCI is a trademark of Sealevel Systems, Incorporated.

Audio Control Unit

Model ACU-1

– INSTALLATION AND OPERATION –

*This documentation is valid for
Audio Control Unit hardware version 1.02p with firmware version 10*

Table of Contents

	Page
Section 1 – Safety Information	
1.1 Safety Information	1.1
Section 2 – System Description	
2.1 General Description	2.1
2.2 System Requirements	2.1
2.3 Front Panel Indicators	2.1
2.4 Rear Panel Switches and Connections	2.2
2.5 Electrical Functions and Descriptions	2.3
Section 3 – Installation	
3.1 System Includes	3.1
3.2 Installing the Unit	3.1
Power Supply Adjustment and Fuse	3.2
Screw Terminal Connector Boards	3.3
Audio I/O Connections	3.3
Silence Sensor Output Connections	3.3
Control Relay Connections	3.4
Multiplex Output Connections	3.4
Parallel Input Connections	3.4
RS-232 Data Connections	3.4
Temperature Sensor Connection	3.4
3.3 Installation Options	3.5
Audio Input Termination	3.5
Adjusting Audio Input Level	3.5
Connecting Multiple Units	3.5
Temperature Sensor Calibration and Placement	3.5
Section 4 – Troubleshooting and Repair	
4.1 Common Problems and Possible Solutions	4.1
4.2 Safety Warnings	4.2
4.3 Factory Service Policy	4.2
Section 5 – Specifications	
5.1 Electrical Specifications	5.1
5.2 Mechanical Specifications	5.1
5.3 Schematic Diagrams	5.2
5.4 Component Layouts	5.5
5.5 Parts List	5.7

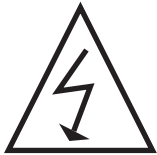
Section I — Safety Information



WARNING!

The ACU-1 Audio Control Unit should be installed only by qualified technical personnel. An attempt to install this device by a person who is not technically qualified could result in a hazardous condition to the installer or other personnel, and/or damage to the ACU-1 or other equipment. Please ensure that proper safety precautions have been made before installing this device.

Before connecting AC power to the ACU-1, verify that the internal power supply is configured for the appropriate voltage. Do not remove or defeat the ground prong of the the AC plug. The ACU-1 is designed for indoor use in a dry location. Installation and operation in other locations could be hazardous.



High Voltage!

Since the ACU-1 operates on 120/240 volts AC, dangerous and potentially lethal voltages will be present if the cover is removed while it is connected to AC power. For this and other reasons, service should be performed only by a qualified technician.

If the fuse in the ACU-1 is replaced, the new fuse should be of the same type and rating as the original fuse. This is indicated on the rear panel.

The ACU-1, as any electronic device, can fail in unexpected ways and without warning. Do not use the ACU-1 in applications where a life-threatening condition could result if it were to fail.

Section 2 — System Description

2.1 General Description

The Audio Control Unit model ACU-1 is an eight stereo input by one stereo output audio switcher. The system also incorporates silence sensors, parallel logic inputs, multiplex outputs, control relays, a clock/calendar and an optional temperature sensor. The unit can operate on either 120 volts or 240 volts AC. It is set for 120 volts AC operation when shipped from the factory.

The ACU-1 is housed in a standard EIA single space (1U) 19 inch rack mounted chassis. There are eight channel selection switches. System status is given through LED's visible through the front panel. There are indicators for channel selection, audio level and various other elements of system activity and behavior.

Audio input and output connections are made via screw terminal connectors on the rear panel. The screw terminals are detachable for easier system installation and removal. The serial data connection is made via a standard 9 pin D connector. The optional temperature sensor is connected to a 3.5 mm connector. The main power supply also connects through the rear panel.

2.2 System Requirements

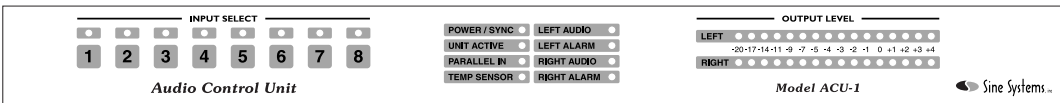
While the ACU-1 can be operated manually to perform simple audio switching functions, the true power of the unit is not utilized unless it is connected to a host computer. The ACU-1 is not designed for any specific operating system or hardware platform.

The host system must have one RS-232 serial port to communicate with the ACU-1. However, multi-drop RS-232 allows the operation of up to ten Audio Control Units from a single serial port.

The ACU-1 requires a single grounded power supply outlet for power.

2.3 Front Panel Indicators

The front panel of the ACU-1 Audio Control Unit contains eight channel indicators, eight status indicators for various system functions and two VU meters.



Channel Indicators illuminate when an audio input is selected (on). There is one indicator per audio channel for a total of eight.

POWER/SYNC indicates that AC power is available and that the power frequency is within 0.01% of 50/60 Hz. This indicator blinks for a half second each minute on the minute.

UNIT ACTIVE indicates that the unit has been selected and is sending and receiving data. This is useful when two or more ACU's are used in a single system.

PARALLEL IN indicates the presence of data on any or all of the parallel inputs.

TEMP SENSOR indicates that the temperature sensor cable is attached and that the sensor is functioning.

LEFT AUDIO indicates that audio is present on the left audio channel.

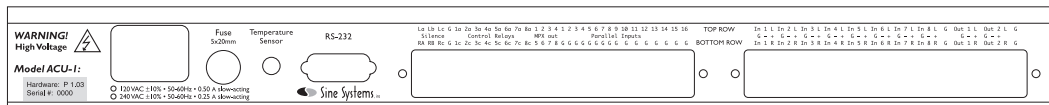
LEFT ALARM indicates loss of audio on the left audio channel and signals the alarm condition.

RIGHT AUDIO indicates that audio is present on the right audio channel.

RIGHT ALARM indicates loss of audio on the right audio channel and signals the alarm condition.

2.4 Rear Panel Switches and Connections

The rear panel of the ACU-1 contains all the I/O connections to the device and the power supply protection fuse.



Power Supply is a standard three prong AC supply inlet as found on PC's and most other modern commercial electronic devices.

Fuse is a twist-release type connector. A 5 x 20 mm fuse is installed inside this connector. The fuse value is indicated on the rear panel.

Temperature Sensor is a 3.5 mm connector for the optional temperature sensor.

RS-232 Data is a 9 pin female 'D' type connector. This is a standard serial data connector commonly associated with PC's.

Silence L/R a/b/c are screw terminal connections for the silence sensor alarm relay contacts. L/R represents the left or right channel and a/b/c represents the relay normally open, normally closed and common relay contacts.

Control Relays 1-8 a/b are screw terminal connections for the control relay contacts. Numbers 1-8 identify the relay and a/b represents the normally open relay contacts. Normally closed contacts are not available but can be simulated by system programming commands.

MPX Out 1-8 are screw terminal connections for the multiplex open-collector outputs. These outputs follow the audio input selector when only a single channel is selected.

Parallel Inputs 1-16 are screw terminal connections for the 16 logic-level parallel inputs. These inputs have internal +5 VDC pull-up resistors.

Audio Inputs 1-8 L/R +/-G are screw terminal connections for the eight balanced audio inputs. L/R denotes left or right channel and +/-G identifies + or - audio and ground.

Audio Outputs 1-2 L/R +/-G are screw terminal connections for the two balanced audio outputs. L/R denotes left or right channel and +/-G identifies + or - audio and ground. The two audio outputs are identical.

2.5 Electrical Functions and Description

The Audio Control Unit is relatively sophisticated for an audio switching device. Audio switching tasks are handled intelligently and effectively without infringing on program source material. And a variety of I/O options give the ACU-1 the ability to signal or control outboard equipment so that it is easily integrated in a complete audio system.

2.5.1 Audio Inputs

Each of the eight stereo inputs is factory configured for balanced operation at nominal 'line' level (-4 dBm to +10 dBm). By changing a socketed resistor network any or all inputs can easily be converted to 'consumer level' unbalanced inputs (-15 dBm).

2.5.2 Audio Outputs

The ACU-1 has two sets of audio outputs that contain identical program material. Output levels are adjustable by internal trim pots between 0 dBm and +8 dBm. The factory is +4 dBm at 0 VU. The audio outputs are isolated and short circuit protected.

2.5.3 Audio Switching

The heart of the ACU-1 is an 8 x 1 stereo switcher. The two isolated audio outputs are driven by the audio output of this switcher. The switcher is a summing switcher--any or all of the inputs can be switched on at the same time.

2.5.4 Automatic Level Control

The switcher contains an automatic level control (ALC) that acts to maintain the output level at approximately 0 VU. The ALC will adjust the gain down rapidly if the audio level is too high or raise it up slowly if the audio output level is too low. The operation is conservative and quite transparent regardless of the program material. The goal of the ALC is to gently 'ride the levels' much like a human operator. It should have no effect on other audio processing that may be in use.

2.5.5 Virtual Level Presets

Rather than use potentiometers for level presets on each input, the ACU-1 uses a technique we call virtual level presets. By storing the gain of each channel at critical points in time and restoring that gain from memory at appropriate times, audio dips and bursts are virtually eliminated during switching. The ACU-1 handles virtual level presets automatically and without outside intervention.

2.5.6 Silence Sensor

The ACU-1 contains individual silence sensors for both the left and right output channels. The audio detection threshold and alarm delay times are set through data commands. Silence alarm status can be polled by data commands. Presence and loss of audio are indicated by LED's on the front panel of the ACU-1. Relay contacts are also available on the rear panel for a pair of SPDT relays that open or close on detection of silence on one or both audio channels.

2.5.7 Multiplex Output

The ACU-1 has eight open collector outputs that follow channel selection called multiplex outputs (MPX). The open collector can be used to select a channel on an external device when an audio channel is selected on the ACU-1.

2.5.8 Control Relays

There are eight general purpose control relays in the ACU-1 that can be used to control outboard equipment. The relays are operated by data commands and the relay action can be momentary or maintained (latched).

2.5.9 Clock/Calendar

The ACU-1 contains a real time clock that is synchronized to the 50/60 Hz AC power line. This results in highly accurate time keeping with near-zero long term drift. If external power is lost, time will be maintained by a backup battery for approximately 12 hours. The NiCad battery recharges when external power becomes available again.

The ACU-1 also has a calendar that allows it to automatically adjust the clock between Standard and Daylight Savings Time. On the first Sunday of April and the last Sunday of October the clock will be adjusted appropriately. This feature is optional and can be disabled in regions that do not observe Daylight Savings Time.

2.5.10 Temperature Sensor

An external temperature sensor is available for the ACU-1. The sensor comes with a weatherproof capsule and 100 feet of shielded cable. The length of the cable can be increased up to 1000 feet (~300 meters) using extension cables. The external temperature sensor is calibrated and polled by data commands.

2.5.11 Multidrop RS-232

Two or more ACU-1's can be operated by the host system on a single RS-232 serial port using multi-drop 'addressable' RS-232. Each ACU-1 must be assigned a unique address in firmware. Each ACU-1 will only respond to commands directed to the appropriate address. A front panel indicator shows when a unit is 'selected' by the host computer.

2.5.12 Power Supply

The power supply of the ACU-1 is adjustable for either 120 or 240 volts AC via internal jumpers. The factory setting is for 120 volts AC.

Section 3 — Installation



WARNING!

The ACU-1 Audio Control Unit should be installed only by qualified technical personnel. An attempt to install this device by a person who is not technically qualified could result in a hazardous condition to the installer or other personnel, and/or damage to the ACU-1 or other equipment. Please ensure that proper safety precautions have been made before installing this device.

Before connecting AC power to the ACU-1, verify that the internal power supply is configured for the appropriate voltage. Do not remove or defeat the ground prong of the the AC plug. The ACU-1 is designed for indoor use in a dry location. Installation and operation in other locations could be hazardous.

3.1 System Includes

The ACU-1 Audio Control Unit package contains these items:

- Audio Control Unit model ACU-1
- rack mounting hardware
- screw terminal connector boards (attached)
- rechargeable battery (installed)
- power cable and fuse for use in the US
- operation manual

The ACU-1 does not include software or a host computer. This device is meant to be incorporated into an audio system consisting of external audio sources and a host system that is provided by the user or a third party value added reseller.

3.2 Installing the Unit

The ACU-1 is housed in a standard EIA single space (1U) 19 inch rack mounted case. The system generates little heat and can be installed in most any convenient rack space. It may be desirable to mount the unit where front panel switches and indicators are convenient but this is not absolutely necessary.

Most of the wiring to the ACU-1 occurs on two 64 position, depluggable screw terminal connectors that are attached to the back of the unit. These connectors can be removed by releasing the two screws that fasten the connector boards to the ACU-1.

3.2.1 Power Supply Adjustment

The ACU-1 can operate on either 120 volts or 240 volts AC. It is set for 120 volt AC operation when shipped from the factory. Inside the unit are a set of jumpers that determine the input supply voltage. If the unit is to be powered by 240 volts AC, change the jumpers as shown in Figure 3.1.

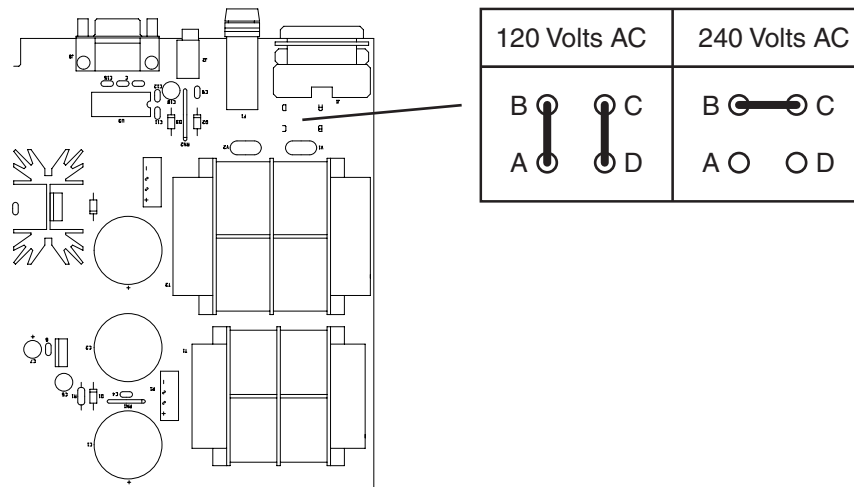


Figure 3.1; Power supply jumper select

3.2.2 Power Supply Fuse

The main supply is fuse protected. The fuse that is installed at the factory is suitable for U.S. installations. It is not necessary to remove the cover to replace the fuse should this become necessary. The fuse rating is given on the rear panel of the ACU-1.



WARNING!

Do not make any attempt to bypass the fuse. If fuse replacement becomes necessary, use one of the specified type and rating. Failure to follow these instructions could result in a hazardous condition to the installer or other personnel, and/or damage to the ACU-1 or other equipment. Please ensure that proper safety precautions have been made before installing this device.

3.2.3 Screw Terminal Connector Boards

The majority of connections to the ACU-1 are made through two screw terminal blocks on the rear panel. These blocks of connectors are detachable for easier installation. Simply remove the two screws at each end of the connector board and pull the connector board straight away from the ACU-1.

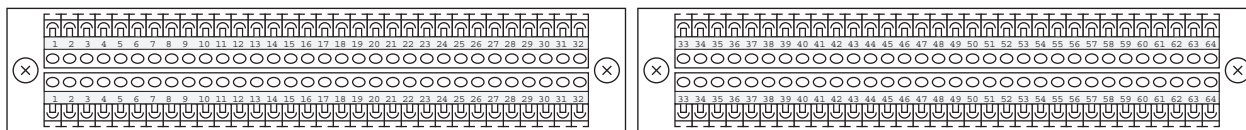


Figure 3.2; Connector boards

The large DIN type connector that attaches the screw terminal connector board to the ACU-1 is keyed to fit in only one direction. Please observe proper connector board orientation when wiring a connector board that is not attached to the ACU-1.

3.2.4 Audio I/O Connections

Audio input connections are made through the right block of screw terminal connectors on the rear panel of the ACU-1. The eight audio inputs are connected on terminal positions 33-56 counting from the left of the left connector block. The audio inputs are balanced. Left channel audio is connected on the top row of terminals. Right channel audio is connected on the bottom row of terminals. Input number, audio channel and polarity are all indicated on the rear panel.

Audio output connections are also made through the right block of screw terminal connectors. There are two sets of audio outputs at terminal positions 58-63. The audio on both sets of output terminals is the same. The audio outputs are balanced. Left channel audio is connected on the top row of terminals. Right channel audio is connected on the bottom row of terminals. Audio channel and polarity are indicated on the rear panel.

3.2.5 Silence Sensor Output Connections

In addition to the front panel LED indicator, the silence detector of the ACU-1 has a pair of relays that change state depending on the status of the left and right silence detectors. The relay contacts appear on the left block of screw terminal connectors at positions 1-3. The left channel relay contacts are on the top row and the right channel relay contacts are on the bottom row. The relay contacts are labeled a/b/c on the rear panel of the ACU-1. These labels correspond to the relay contacts according to the table below.

Label Relay Contact

La	Normally open contact--left channel
Lb	Normally closed contact--left channel
Lc	Common contact--left channel
Ra	Normally open contact--right channel
Rb	Normally closed contact--right channel
Rc	Common contact--right channel

3.2.6 Control Relay Connections

The control relay contacts appear on the left block of screw terminal connectors at positions 5-12. Only the normally open relay contacts are available but it is a simple task to simulate a normally closed contact through software commands to the ACU-1. There is no voltage on the control relay contacts. The control relay contacts are labeled on the rear panel.

3.2.7 Multiplex Output Connections

The multiplex output connections appear on the left block of screw terminal connectors at positions 13-16. This set of outputs is a set of eight open collectors that follow the audio channel selection. These outputs can be used to select or enable an external device when its audio channel is selected either by software or by front panel selection buttons. The multiplex output is only active when a single audio channel is selected. Outputs 1-4 are on the top row and 5-8 are on the bottom row. The multiplex outputs are labeled on the rear panel.

3.2.8 Parallel Input Connections

The parallel logic inputs appear on the left block of screw terminal connectors at positions 17-32. These 16 inputs are a set of ground referenced, +5 VDC logic level inputs with internal pull-up resistors. The parallel inputs are provided for general purpose on/off status sensing. Parallel inputs 1-16 are labeled on the top row of terminals and the bottom row is ground for all 16 inputs. These inputs are labeled on the rear panel.

3.2.9 RS-232 Data Connection

A 9 female pin 'D' type connector is provided on the rear panel for data communications with the ACU-1. A straight-through cable from the host computer to the ACU-1 should work nicely. In other words, a null-modem cable should not be necessary and is not desirable for most installations.

Multi-drop RS-232 allows multiple ACU-1 to be connected to the same host computer on the same RS-232 serial port. A custom cable will be necessary for these installations. The multi-connector cable should simply connect each pin of each 'D' connector in parallel.

3.2.10 Temperature Sensor Connection

The temperature sensor connects through a 3.5mm connector on the rear panel of the ACU-1. The jack is labeled. When the sensor is connected and operating properly, the front panel indicator will illuminate.

3.3 Installation Options

This section contains information that does not necessarily pertain to every ACU-1 installation, but is pertinent in many cases.

3.3.1 Audio Input Termination

The ACU-1 main board has locations where terminating resistors can be added if necessary. A pair of 620 ohm 1/4 watt resistors per channel is sufficient. Each channel has two termination points—one for the left input and one for the right input. Figure 3.3 shows the locations of the termination points.

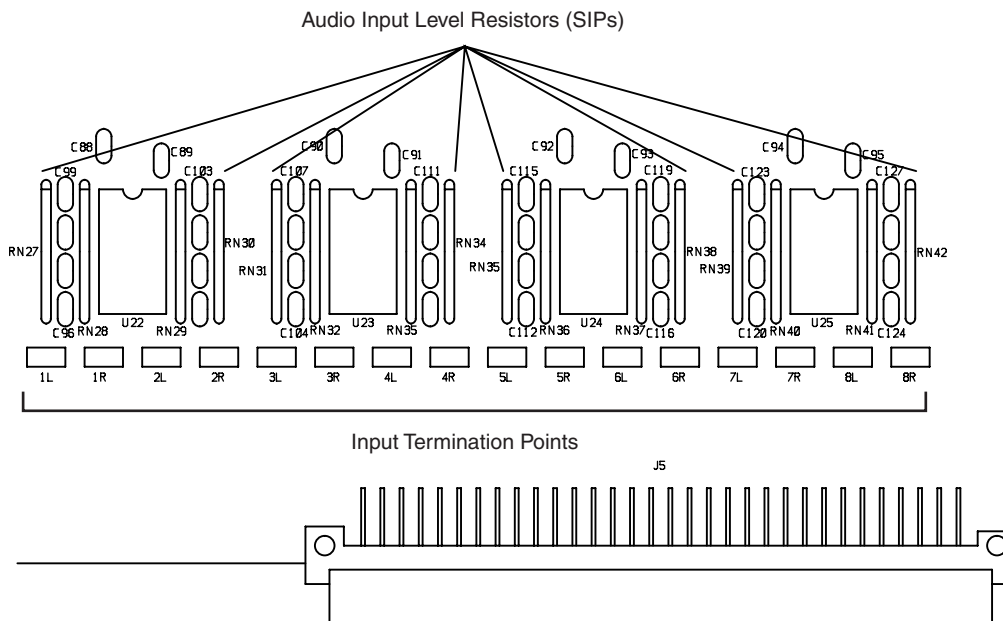


Figure 3.3; Input Level Resistors and Termination Points

3.3.2 Adjusting Input Audio Level

The input audio level for each channel is factory set at +4dBm by the use of a 33K SIP resistor. The input resistor (SIP) is in a socket and can be changed easily to adjust the input level. Replacing the 33K SIP with a 3.3K SIP resistor will change the input level to -16dBm. This is an appropriate level for consumer level audio sources. The location of the SIP sockets is shown in figure 3.3.

Location Input Channel

RN27	Audio Input 1
RN30	Audio Input 2
RN31	Audio Input 3
RN34	Audio Input 4
RN35	Audio Input 5
RN38	Audio Input 6
RN39	Audio Input 7
RN42	Audio Input 8

3.3.3 Connecting Multiple Units

The audio switching capabilities of the ACU-1 can be expanded by connecting multiple units in parallel—up to 10 units can be connected in a single system. Our multidrop RS-232 allows all of the units to be connected to a single serial port on the host computer.

Normally, only a single device can be connected to an RS-232 serial port so serial 'Y' adapter cables are not common but they are available. It is easy to make a cable that will work in this application. Simply connect each pin of each 'D' connector in parallel. The RS-232 driver in the ACU-1 is switched to a high impedance state when the unit is not active. This allows a direct parallel RS-232 connection without damage to the unit. Software will only be able to activate one ACU-1 at a time.

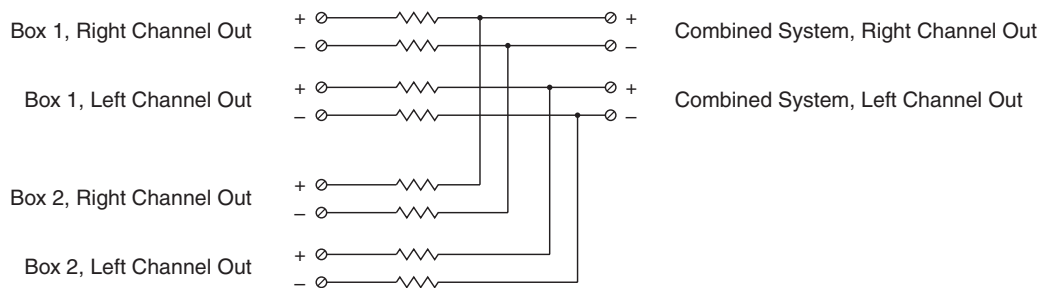


Figure 3.4; Combining Audio Outputs of Multiple ACU-1's

The audio outputs of the ACU-1 should not be connected in parallel due to their low output impedance. Figure 3.4 shows a simple combiner pad that will sum the two audio outputs. The combiner will have a loss of 6 to 9 dB depending on the load impedance at the combined system output audio terminals.

3.3.4 Temperature Sensor Calibration

The ACU-1 can read the temperature in degrees Fahrenheit or Celsius. To calibrate the ACU-1 temperature sensor, a thermometer of known accuracy should be placed as close as possible to the temperature sensor. Give the thermometer about ten minutes to stabilize in temperature. Then set the ACU-1 to read the same temperature as the thermometer. See the programming section for the appropriate commands for setting the temperature.

An alternate method to calibrate the temperature sensor is to fill a styrofoam cup with crushed ice and water. Insert the sensor into the cup and allow a couple of minutes for the temperature to stabilize. Shield the sensor and cup from direct sunlight. Set the ACU-1 to read a temperature of 32 degrees F (or 0 degrees C). See the programming section for the appropriate commands for setting the temperature.

The temperature calibration and scale are stored in non-volatile memory and will not be lost during a power failure, even if the back-up battery is not charged.

3.3.5 Temperature Sensor Placement

To get readings that give good correlation to those reported by the nearest NOAA weather station, it is important to measure the temperature the same way they do. Just hanging the sensor out a window will almost surely produce temperatures that fluctuate wildly. The key measuring the temperature accurately is to mount the sensor in a standard enclosure. It provides very accurate air-temperature readings.

An alternative to buying a standard enclosure is to make one using inexpensive materials. The primary raw material is two 12 inch wide louvered wood shutters—louvered doors might also work. Cut the shutters so you end up with four equal lengths of shutter about 13 to 16 inches long. A little improvising may be required depending on the style of shutter or door. Some can be cut along a solid horizontal reinforcement piece and others will require the end louvers to be stabilized with glue or a piece of wood. In either case, you will build a box with the four pieces of shutter using them for the four walls. The floor and roof of the box are made of 3/8 inch exterior grade plywood.

Attach three of the four sides together with glue and nails or screws. The pieces of shutter should be oriented so the louvers will drain outside of the enclosure. Attach this assembly to the floor. The roof should overhang about 3 inches on all sides. Attach the roof with a couple of 1/4 inch spacers near the front so that it slopes slightly to the rear. This will prevent water from standing on top. The remaining wall should be attached with two hook-and-eye sets so it can be removed.

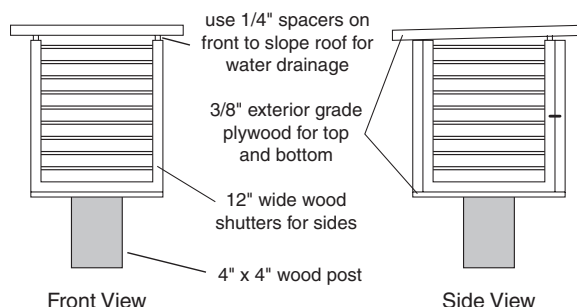


Figure 3.5; Standard Enclosure

Mount the enclosure on a 4 inch square wooden post. The floor of the enclosure should be 4 feet above the ground. Drill a small hole in the floor near the edge of the post for the sensor cable to come through. A 1/4 inch hole drilled in one of the walls about an inch above the floor makes an easy way to insert a calibration thermometer without removing the louvered panel (see section 3.3.2). The enclosure should be given at least two coats of white exterior paint inside and out.

Place the enclosure at least 20 feet from the nearest building, preferably on grass covered soil. It should be as far away as possible from concrete and pavement. Do not place the enclosure near air-conditioner compressors or under trees.

Run the cable for the sensor up the post and through the hole in the floor. Lay the sensor in the center of the floor of the enclosure. Be careful not to cut or puncture the outer insulating jacket of the cable. The inner conductors must be protected from the weather. If an extension cable is used, wrap electrical tape around the connectors to seal out moisture.

When visiting the enclosure during the summer months you might want to take a can of wasp and hornet killer with you. They just love to build nests in these things.

Section 4 — Troubleshooting and Repair

4.1 Common Problems and Possible Solutions

Problem: The ACU-1 does not power up.

Solutions: Check that the fuse and internal jumpers are set for the appropriate voltage. Make sure that the fuse is intact. Check power cord for shorts or worn spots.

Problem: The ACU-1 powers up but there is no response to commands from the host computer.

Solutions: When the ACU-1 is communicating with the host system, the 'Unit Active' LED will illuminate when it receives the attention signal portion of the command: AT Ø1 (assuming that the box address is set to the factory default of 1.) If the LED does not illuminate then the ACU-1 and the host computer are not communicating. There are several possible reasons for this: a defective data cable, incorrectly set box address, mismatched baud rates. The ACU-1 is factory set to 57.6K baud and box address 1. A straight-through data cable will work for most computers.

If the ACU-1 communicates properly then stops, try sending a carriage return without any data to clear the command buffer and send the command again. If all else fails and communications cannot be reestablished, the ACU-1 can be reset to the factory default settings through the front panel. To do this, press and hold Input Select buttons 1 and 8 simultaneously for two seconds. Performing this procedure has the same effect on the system as the BXDF command.

Problem: The output audio level is low.

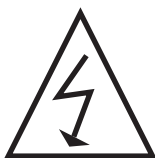
Solutions: Make certain that your software has instructed the ACU-1 to select the proper input channel(s) and raise the level appropriately. Verify that none of the audio output terminal are grounded. Check the audio level to the ACU-1 audio input(s). The ACU-1 is factory configured for an input level of 0 dBm to +10 dBm. The audio input level can be adjusted. See Section 3 for more information on hardware adjustments.

4.2 Safety Warnings



WARNING!

The ACU-1 Audio Control Unit should be installed or repaired only by qualified technical personnel. An attempt to repair this device by a person who is not technically qualified could result in a hazardous condition to the installer or other personnel, and/or damage to the ACU-1 or other equipment. Please ensure that proper safety precautions have been made before installing or repairing this device.



High Voltage!

Since the ACU-1 operates on 120/240 volts AC, dangerous and potentially lethal voltages will be present if the cover is removed while it is connected to AC power. For this and other reasons, service should be performed only by a qualified technician.

4.3 Factory Service Policy

These policies are effective August 1999 and are subject to change without prior notice.

If you purchased this equipment as part of a system from a third party, you must contact your vendor for support. The third party vendor is responsible for support issues.

4.3.1 Factory Warranty

Sine Systems, Inc. guarantees our products to be free from manufacturing defect for a period of one year from the original date of purchase from Sine Systems, Inc. This warranty covers the parts and labor necessary to repair the product to factory specifications. This warranty does not cover damage by lightning, normal wear, misuse, neglect, improper installation, failure to follow instructions, accidents, alterations, unauthorized repair, damage during transit, fire, flood, tornado, hurricane or acts of God and/or nature.

4.3.2 Factory Return Policy

The factory return policy only applies to equipment purchased directly from Sine Systems, Inc. Equipment purchased through a third party (dealer) is subject to the return policy of the dealer and arrangements for return or exchange must be handled through the dealer.

Sine Systems policy on returns and exchanges with the factory is broken down according to the following schedule:

30 days “no questions asked”

During the first thirty days from the date that equipment ships from our factory we will accept it back for a full refund less shipping charges provided that the equipment is still in new, resellable condition with no cosmetic damage. This does not constitute an evaluation program. It is for legitimate purchases only.

less than 60 days, may be returned less 15% restocking fee

Between 31 and 60 days from the time we ship the equipment, we will accept unmodified equipment back for a refund less shipping charges and 15% of the invoice cost. This is to cover the cost of restocking the items which must then be sold at a discount as reconditioned instead of new.

no return after 60 days

We will recondition the equipment for you according to our repair rates but we will not accept it for refund or exchange after 60 days from the initial purchase.

4.3.3 Factory Service Policy

Sine Systems is proud to offer same day repair service on all of our products. When we receive damaged equipment, we will repair it and ship it back the same day it arrives. Because we offer immediate service, we do not send loaner equipment. If we cannot immediately repair equipment and return it, we may ship a loaner unit at our discretion.

While we do not require prior authorization on repairs, we suggest that you verify our shipping address before returning equipment for repair. Sine Systems is not responsible for items lost in transport or delivered to the wrong address. Emergency service may be made available on weekends or holidays, at our discretion, if arrangements are made with us in advance.

4.3.4 Warranty Service

There is no charge for repair service on items covered under warranty. You are responsible for shipping charges to return damaged equipment to us for repair. Damage due to negligence, lightning or other acts of nature are not covered under warranty.

4.3.5 Service Rates

For service not covered under warranty we have a flat rate repair fee. Flat rate repairs cover only components that fail electrically. Mechanical damage will be assessed on a per repair basis. Repair charges typically fall into one of these categories. Shipping fees are not covered in the repair rate.

Minor programming adjustments or no damage, \$50 plus shipping

Sometimes a system works exactly like it is supposed to when we get it or it can be fixed through a simple adjustment in firmware. We will do our best to identify intermittent hardware problems and correct them. The fee covers the time it takes our technician to thoroughly inspect and test the equipment.

Minor repairs are up to \$150 plus shipping

Five or fewer defective components are replaced in a minor to moderate repair. This accounts for most of our repairs. These repairs may cost less depending on the components replaced and the amount of time required to complete the repair.

Moderate repairs are \$250 plus shipping

Six to ten defective components are replaced in a major repair. Again, we may charge less depending on the components replaced and the amount of time required to complete repairs.

Major repairs cost more than \$250 plus shipping

This occurs rarely but it can happen. If the equipment has blown traces and scorch marks from burned components, it's a safe bet that it will take several components and quite a bit of bench time to repair. We assess this type of repair on a per incident basis.

Damaged beyond recognition, assessed on a per case basis

Hopefully you have insurance. In cases where the board is so badly damaged that it is not worth repairing we may, at our discretion, offer to replace the destroyed circuit board. The options and costs vary widely in these cases so we will call with options.

All repairs must be billed to a credit card or shipped COD. Specify which you prefer with your request for service. At your request, we will call with the total amount of the repair (including applicable shipping charges) so that suitable payment can be arranged before a COD shipment. If you need a COD total, do not forget to include a telephone number where you can be contacted.

4.3.6 Instructions for Factory Service

Please include a note with any specific information available about the equipment failure as an aid to our technicians. Pack equipment carefully to avoid further damage in shipping. We are not responsible for damage during transport.

When returning a system with multiple components, we strongly suggest that you return the entire system. We will repair the parts that are returned but lightning is rarely selective enough to damage only a single part of a system.

Be sure to include a street address for return shipping by UPS. The repair will be delayed if you neglect to give us enough information to return your equipment--this actually happens! If you prefer a carrier other than UPS or wish us to bill to your shipping account, we can usually accommodate these requests. Many carriers do not accept COD shipments so credit card billing may be required for carriers other than UPS. If you do not specify otherwise, return shipments will be made by the UPS equivalent of the received shipping method (i.e. Ground shipment, 2nd Day, Overnight).

We suggest that you verify our shipping address before sending equipment for repair. Same day service does not apply if you ship to an incorrect address and/or the carrier delivers the equipment too late in the day for repairs to be completed. Sine Systems is not responsible for equipment that is not delivered to our factory. It will be your responsibility to contact the carrier to retrieve your improperly delivered equipment.

Section 5 — Specifications

5.1 Electrical Specifications

Ports

Balanced Audio In/Out (3.5mm screw terminal connectors)
Control & Logic I/O (3.5mm screw terminal connectors)
RS-232 Data (9 pin female 'D' type)
Temperature Sensor (3.5mm phone)
AC Power (consumer type grounded)

Switches

Input Source Select (selectable interlocked/toggle pushbutton)

Indicators

Input Select (green)
Power/Sync (green)
Unit Active (green)
Parallel In (green)
Temperature Sensor (green)
Left/Right Audio (green)
Left/Right Alarm (red)
Output Level (green/yellow/red)

Data

RS-232 multi-drop (addressable)
2400 to 115.2K baud

AC Power

100-240 Volts AC, 50-60 Hz

Fuse

120 VAC, 0.50 A slow-acting (120 Volt installations)
240 VAC, 0.25 A slow-acting (240 Volt installations)

Interference

Complies with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC Rules

5.2 Mechanical Specifications

Dimensions

16.75" (w) x 8.5" (d) x 1.75" (h)
mounts in standard 19" EIA rack

Weight

6 lbs.

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Traffic and Music

Information for the most common Traffic and Music Scheduling systems.

TRAFFIC AND MUSIC

NexGen Digital™ systems can interface easily with most traffic and music scheduling systems.

Contact your traffic system vendor for information on compatibility.

Traffic

All spots will need to be numeric.

If you have alphanumeric spots now, your best bet is to start changing them now to all numeric. With NexGen Digital™, you will not need to have different carts for each station to play the same spot; you need only record one. If you do air different versions of one spot, you can have multiple cuts rotating and/or airing on any selected stations.

All new spots should be given and recorded with numeric cart numbers. Live reads get their own valid cart #'s, and will be in NexGen as "Memos." You traffic each one, and it runs as a non-audio spot, with copy that will appear on the screen for the announcer. Live tags will also have that feature.

Create your NexGen Traffic Export.

Create "Block #" statements for every stopset on the line above the first spot. You will need to be set up to export to your current system and NexGen concurrently until you are completely switched to run on NexGen.

Before you do anything, consider the following: Can you create a new export configuration without altering your current one? Is your current setup exporting the same fields listed below? (Count the columns.) If you add the Block # statements now, will your current system mind them?

Following are the configurations for the most common traffic scheduling systems. Contact your traffic system software support department for help with configuring your specific traffic system.

Media Star – Technical Support 888-271-2395 Option 2

In NexGen Config/Station/Traffic, the MediaStar template can be applied.

The path/filename is: **T:\(2-digit station number, like 01)@mm@dd@yy.trf**

Verify each station with the corresponding path/filename:

T:\(same station number)mm@dd@yy.003

CBSI – Technical Support 800-547-3930

Main menu #5 (System Mtnce & Controls); #6 (Set log transfer controls).

System: Audio Prophet, NexGen	Reconcile – YES
Transfer – YES	Keep Image files – 15 Days
Transfer spot rates – N/A	
Path: A:\WXXX\ (for now)	Reconcile path: same
Files sent to auto: mmddyy.dat	
Reconcile files: mmddyy.rec	

CBSI has a field for 'System' where you choose Prophet, however some stations use the 'CBSI Standard Log Export – 1.0' – which can also work.

Station must be set up for Table of Events. Select #5 for Menu 'E', then #1 (Set Traf Sys Controls); then #1 (Gen Sys Controls); #9 Use Table...YES (that creates the table.)

Main menu - #1, then #8 (Change location of Comm avails). Next screen – enter, choose #11 (Table of event names). Go to #1, type 'Block #' [and length of very 1st stopset in 12a hour. (Don't need cart# or length.)] "Enter" out.

Return to prior screen, where you can see all the days. Choose 1st day to work on, midnight hour. First avail above 1st avail (spot), type in 'T'; enter; type '1'; enter; then you will see 'E1.'

If you have stopset lengths - Copy hours that are the same, but do not copy 12am.

Set up avails but do not copy your hours until the Block #'s are set up. When copying, highlight both avails and event numbers. CBSI's Optional event numbers are not used.

An event with the date of the generating traffic log must be created with no cart #, and this must be the first thing on the program log each day after the Sign On Program.

Here is the CBSI export file structure by columns:

1-5	Not used
6-13	Event time in HH:MM:SS format
14	Not used
15-19	Cart #
20-25	Not used
26-30	CBSI Account #
31	Not used
32-33	Sequence #
34-38	Not used
39-68	Event description

In 72 & 73, below, you see the identification of the timing of the spot.

Your program log that goes to the studio can still have your program notes and comments for transmitter readings, etc. But your traffic export should be configured to be simple like this sample CBSI export:

09:52:30	0000 00000-00	BLOCK #	0000
09:53:00 7070	0080 00097-11	AMSOUTH BANK	0060
09:53:30 7171	0082 00098-00	WALGREEN COMPANY	0060
09:54:00 8104	0084 00098-66	AUDI (ABC)	0030
09:54:30 8383	0086 00094-34	PREMIERE/PULSE	0030
10:21:30	0000 00000-00	BLOCK #	0000
10:22:30 8135	0090 00088-86	MIDWEST CENTER/STRESS (ABC)	0060
10:23:00 8133	0092 00096-47	M&M MARS (ABC)	0030
10:23:30 8102	0094 00093-00	AMERIDEBT (ABC)	0030
10:34:30	0000 00000-00	BLOCK #	0000

Be aware, some traffic systems, like CBSI, may not like Block # lines as the first event in the hour (at 0:00) - schedule a blank line before.

DARTS – Technical Support 334-749-5641

With DARTS, you can easily create an export for NexGen right now, and continue to perform parallel exports. Instead of changing system configurations, you just take any finished traffic log and make it NexGen-friendly. In the first 'Shift-8' step below, that allows you to select NexGen, you may need an authorization code. This will you have to get from your DARTS support tech.

Go to System Main Menu. Choose 1 (Daily Processing), then 10 (Download Logs to Automation System).

Select the station you are going to export for. The new screen you see will say "Download Logs to (current system)," and the days of your logs will be lined up.

Press 'Shift-8', and then see the different automation systems that DARTS can export to with that log. Select 8 (Wizard for Windows or NexGen Digital™, depending on version).

Next, there will be an option for a file output name, and you can hit 'Y' for keeping that by calendar date. This returns you to the prior screen with the log days; however, you now see "Download Logs to Prophet Systems." Enter the log day of your choice. When it asks to "Add Block #'s to Stopsets" select 'Yes'.

Follow same steps as usual to download your log. When you have completed exporting to NexGen, go to your Downloading area again and press 'Shift-8' to go back to your other system setup.

Here is the DARTS export file structure by columns:

6	Hour
9	Min
15-19	Cart #
39-63	Description
66	Row # (log line) (disappearing in new update)
72	Lgth of spot

On the first line only: Log Date. 42-mm, 45-dd, 48-yy.

Programming/Music Department

Organize your program schedule.

Gather all recorded material to be put in NexGen. Choose an hour that will be least intrusive on listeners and staff to input the material into the system.

Provide copies of all clocks used for day-to-day operation to your station engineer.

Locate jingle, liner, and legal ID master tapes for quick dub-in. Start with the generic ones and then progress to the show and shift-specific elements.

Prepare to match stopsets between program clocks, music scheduling software, satellite and canned programs, and traffic. Confirm with traffic that the programming and traffic clocks have an identical number of breaks for every hour.

Use the following forms to:

Lay out how your week uses each clock. Describe the clock for each letter (ex. 'Rush'; '3 stopsets'), and write the letter into the hours it is used. This will help you copy hours and days across.

Prepare your shifts for each show/daypart. Each satellite show should have a shift, which allows its own IDs and liners to generate automatically when OPTOs are received.

Record staff information, including their passwords, so you can create them as users and give them rights to the system later.

Keep a copy of the forms for your PSi Installation Specialist.

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Hourly Clocks for (station/market): _____

							CLOCKS
MON	TUE	WED	THU	FRI	SAT	SUN	
HOUR							
0							A
1							B
2							C
3							D
4							E
5							F
6							G
7							H
8							I
9							J
10							K
11							L
12							M
13							N
14							O
15							P
16							Q
17							R
18							S
19							T
20							U
21							V
22							W
23							X

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(Describe the types of satellite-generated liners below....Magic calls, network format sweeps, etc.)

Liner G

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Users at (Station/Market): _____

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Configure your NexGen Digital™ Music Export.

As with any music software programs, you have similar tasks to produce virtually the same output format.

Many guidelines for preparing Selector are applicable to other programs. Read the Selector instructions to better understand what you will do with yours.

Contact your music system software support department for help with configuring your specific traffic system.

SELECTOR

Make an export format for NexGen Digital™.

In Main Menu, choose #7 Print Log; then F4 Edit Log Formats. Header/Footer Design should be empty. In Log Parameters, name this log format "Prophet."

There should be no artist notes, no song notes, and no unscheduled positions printed. Under that window's Breaknote design, you DO want "Different Designs for Stopset." (This splits Breaknotes between stopset and non-stopset, and will allow you to export exact ID's, sweepers, artist liners, etc., to Prophet for full control.)

In Song design, Stopset Design, and Non-Stopset Design, you will configure your Selector output so that your linear information on songs and breaknotes is placed into fields that Prophet will read when it imports.

Selector fields, with design codes: (C=column, L=length)

Media Code	C 01, L 02	'MA' (breaknotes) or 'ME' (songs)
ID number	C 04, L 06	'ID' (for songs & non-stopset breaknotes only)
Title	C 13, L 24	'TI'
Runtime	C 38, L 04	'OT' (songs) or 'RO' (breaknotes)
Log Day of Week	C 43, L 01	'DO' (optional, usually used for songs only)

Log Date – divided by the following...

Month	C 45, L 02	'MO'
Day	C 48, L 02	'DY'
Year	C 51, L 02	'YR'
Log Time	C 54, L 02	'AH'

Every field has the configuration area open for numbering the Line (always '1'), Column, Length, and Font (always 'P').

The Media Code field, first in each row, is a two-digit code telling NexGen what type the corresponding event is. In Song Design, you can hard code the Media Code to be '03', so every song will have that next to it.

Non-Stopset breaknotes have a hard-coded '04', since any sweeper, jingle or ID assigned by Selector will be represented similarly. To hard code this field, go to its Line column and hit F7. You get multiple lines to put the column information. A '0' would be the in the first punctuation row and a '3' or '4' would be in the second.

For Stopset Design (consisting of stopset marker and comment breaknotes), set the field in normal fashion with the 'MA' code, and whether the breaknote is an '08' stopset or an '09' comment it will fill the line.

Ensure that you review every breaknote in every clock you run. At the end of every music sweep, where you go to a spot block, you need a stopset marker breaknote. This will tell NexGen that the next line (sweeper or song) you export will be after the next spot block in the log.

To edit any breaknote, hit F5 on the Item # and F5 again. Stopset breaknotes can keep their Selector ID numbers, but non-stopset breaknotes (sweeps) need to be created as new and the ID you assign is their corresponding number in Prophet. (Insert the new one; delete the one you already had.)

The Media Code will be hard-coded for non-stopset breaknotes, so that can be left blank; and where it asks 'Stopset?' select 'No.' Stopset breaknotes will be in 'Stopset Design,' so for those say 'Yes.'

For comments, fill the Media Code with '09' and stopsets '08.' You'll notice that once you edit a breaknote in one clock, it is updated for each clock where it is used.

(We want to say a comment is a stopset so that NexGen does not schedule it as a sweeper. We use the '09' code so NexGen knows it is really a comment.)

Some stations prefer to rotate their sweepers in a Selector song category. Instead of changing your sweeper control to breaknotes, you can continue to do that. You will need to code your Song Design as the soft 'ME', then go to every song, inserting the '03' media code, and every sweeper, inserting the '04.'

The Media field is 4 characters in the song screen, and you need to place those numbers in the left 2 spaces for it to work. If you already use the Media field for CD numbers, try the Texture ('TX') field, and configure that to the first two columns of your export in Song Design. (Bonus: You can mass-change with the Texture field.)

Again, check your stopset breaknotes against the program clock and traffic setup. They must be equal every hour. Be careful with adjacency sponsorships; some traffic departments tend to schedule them as individual breaks. In your Selector clock programming, they would require adjacent stopset breaknotes.

Here is a sample of a Selector music export:

03 19149	That's My Story	180 3 10 23 01 08
04 54000	LEGAL ID WQIK	10 10 23 01 09
03 20615	The Way You Love Me	178 3 10 23 01 09
09	LIVE TALK OVER/DAYPART R	10 10 23 01 09
03 33994	On a Night Like This	206 3 10 23 01 09
04 54010	RECORDED PROMO	30 10 23 01 09
03 20712	Cold Day in July	246 3 10 23 01 09
04 54300	IMAGE SWEEPER	10 10 23 01 09
03 75489	When Somebody Loves You	207 3 10 23 01 09
08	BACKSELL/LIVE "B" PROMO/ 420	10 23 01 09

MUSIC MASTER – Technical Support 888-855-8829

Ensure you have been updated to Music Master version 2.0. Duplicate your existing music database.

In Main Menu, go down below the menu to Datafile. Add Database, and copy the old one. Name it with "Prophet" in the title. Go back into the program, ESC to Datafile again, and select the database to work in.

Go back into Music Master to create your NexGen interface.

In Main Menu, go to Schedule, then Interface, then Music Master Interface Manager. Install External Product Interface. It is best to use a Standard Definition File.

In your Data File Manager, select Audio Wizard/Prophet. Modify the path, by installing LOG2ASC.DEF. (This exports your daily logs. By default, this directs the file to the A: drive but you can edit the path to direct the file to another location if/when you are networked.)

Save this as a private file. R (for 'Return'.) Your choice gives you a long list down that reads:

A:\

/NOID

/NOHOURMARKERS

/NOTRAFFIC

/OUTPUT=T@m1@d1@y2.ASC

/B:28

99,03

99

17,1,8

99

3,1,24

99

54,1,4and so on. This is the equivalent to the linear configuration in Selector. Make sure you hit 'F10' to save, and "Escape" all the way out.

All songs will automatically be given the '03' code for NexGen to see. To export stopsets or special events, you need to edit or insert log notes in your clocks.

As long as you are editing your NexGen-ready database, you can adjust all of it now. Go to Format Clock Editor. Choose a clock to edit, and see columns for: ID; Start; Runs; EI (element); Element Discrp. The "EI" codes you use are 'L' for sweeper & comment log notes and 'S' for stopset log notes. Type the letter in that column and then follow this format in the description column:
^xx^yyyyyy^description

The '^' in the first column is required. The 'xx' is the record type. Here is where you use the same codes as in Selector's media code: 04 for sweepers, 08 for stopsets and 09 for comments. The 'y' field represents the cart #. If there is no cart # to export, you still need the carrots. The description field is optional, and can contain up to 24 characters.

Log note examples:	Sweeper	^04^51000^WXXX Legal ID
	Comment	^09^^Voice Track here
	Stopset	^08^^:20 stopset

You will still need to merge to your other system or create logs from your original datafile, so "ESC" out to the main menu, go below to "Datafile," then select the other database to work in until you return to more NexGen setup.

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Training

The PSi Installation Specialist shows you how to set up and use
NexGen Digital™

Training

The hardware setup is now finished. At this point, the staff will be trained to configure the software use the NexGen Digital™ system. **The PSi Installation Specialist will go over this section with you.**

Program the Database

Log into the NexGen Digital™ system using the password provided by PSi, and access the Config screens (click the Config button at the top of the NexGen Digital™ desktop).

The Config screens are where you define, maintain, monitor, and administer the hardware and software components that make up the NexGen Digital™ system. Depending upon several factors, (including additional capabilities your site may or may not have purchased) there are potentially seventeen configuration areas within the Config screens (represented by icons in the Config screen), each addressing specific areas of the NexGen Digital™ system setup.

For new and expanding installations, you would typically configure your system in the following order (refer to the Setup section of this guide for details on each Config area):



Station – Configure your stations here, including traffic and music load configurations, and other relevant information.



CPU (a) – Initially, give each CPU in the system a name and enter its IP address. If you know at this point which stations are to be controlled by this CPU, use the Station buttons to select each station. You'll be coming back to this configuration area to complete the CPU definitions (such as naming Play Devices and so forth) later. Note that each CPU can control up to eight stations.



Input – For each station, select the controlling CPU from the drop-down list, select the station, and name the input card device. Select the card type from the list, select its device number, specify its bit position, and select the OPTO Event, if appropriate.



Output – The output device is associated with one CPU and is not station-specific. Select the CPU from the drop-down list and name the output card device. Select the card Type from the group of radio buttons, select its device number, enter the momentary closure time, and specify its bit position.



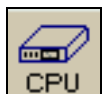
Play – For each CPU, name each playback card it contains and select the card Type from the group of radio buttons. Select its device number and specify the stream and pot numbers. If you have an AudioScience card, set it up as device 1, streams 1-4. If you have Antex cards, you set them up as device 1, stream 1; device 2 stream 2; device 3 stream 3; and so forth.



Source – For each CPU, name its source and select its source Type from the group of radio buttons. Select its device number and specify the bit position.



System – Select the CPU (from the drop-down list) on which this CPU will rely for time-synching. Enter the time sync time, window, and delay if you would like them to be different than the defaults. Enter the Operating, Archive, Overnight, and Transaction directory paths. In the Overnights group, check Run Automatically if you want the overnight routines to be run automatically. Select the CPU to run the overnight routines on and enter the time to execute them. Click Options to configure which overnight routines will be executed. You can configure the Data Transfer, Audio Type Ranges, and Production Defaults by clicking on the appropriate button. Double-click on a drive letter in the drive list box to configure which directory will be used to store the different audio types. You can also specify the number of days to save read and unread mail that is sent through the NexGen Digital™ system.



CPU (b) – Return to the CPU configuration screens and complete defining the CPU with the devices you configured. For each station, select the appropriate play and record devices. Enter other information as appropriate.

Click Local Playback to configure the local playback. Click Station Pots to configure the station pots.

Click DRR to configure the DRR settings if the CPU will be used as the DRR machine.

Click IO to configure the CPU's input/output settings.



User – For each user on the system, enter the name they will use to logon and their password. Select the station and assign rights by selecting or deselecting from the list. You can build up a library of templates and apply those as necessary for standardized access rights.

You can select all rights for each rights category by choosing the rights category in the Primary Rights list box and clicking This Station in the Set row of buttons.

You can remove all the rights in a category by clicking This Station in the Clear row of buttons.

You can set or clear all the rights in a category for all stations by clicking All Stations.



Shift – By station, name each shift and add any appropriate comments.



VStation – This is an optional configuration and is not required to take a configured station live. If you are in a WANcasting environment, use VStation to configure virtual stations, including traffic and music load configurations, and other relevant information. These Virtual stations can then be WANcast to remote locations and transformed into live stations.

Staff Training

Once the NexGen system is configured, the PSi Installation Specialist will review proper recording procedures for Production/Music (CD Extractor, Audio Format Converter, etc.), proper NexGen clock building procedures for Programming, and proper DRR clock building procedures for Programming and Engineering.

Production:

- ☐ Create station clocks and logs
- ☐ Load traffic and music logs into station log
- ☐ Set up music generation settings (if applicable)
- ☐ Create DRR clocks and logs
- ☐ Set up DRR configurations
- ☐ NexGen Digital™ Editor
- ☐ Labeling fields
- ☐ Start dates; End dates
- ☐ Rotation schedules
- ☐ Dayparts
- ☐ Erase dates
- ☐ Reports Spot

Control Room:

- ☐ Live-show interface
- ☐ Modes of Operation (auto, manual, satellite)
- ☐ Use clocks and logs
- ☐ Load traffic and music logs
- ☐ Configure and use reports
- ☐ How to use time syncing
- ☐ Set-up and configure PC Anywhere

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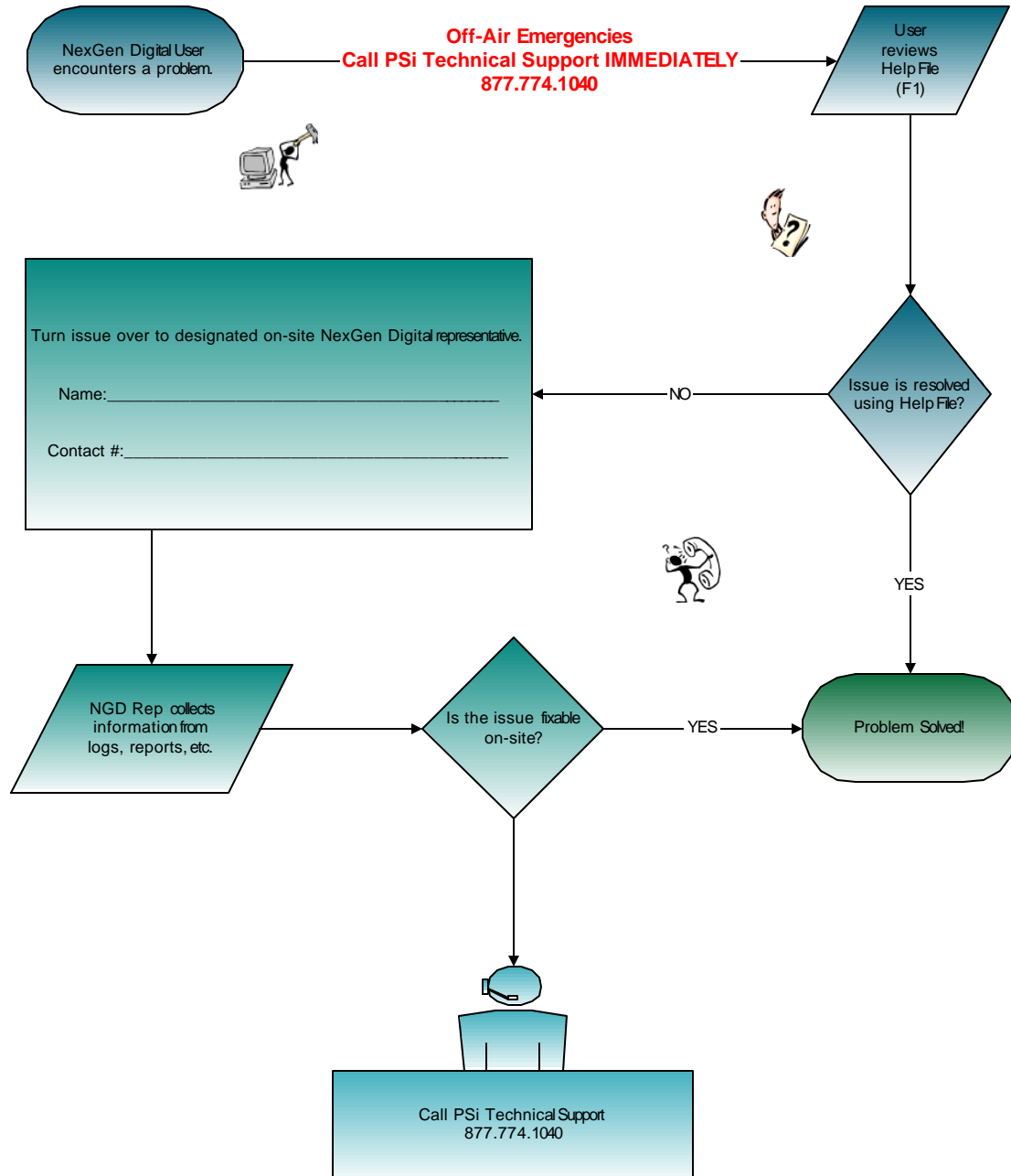
Training for (*Station/Market*): _____

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How to Get Technical Support



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NexGen Digital™

Broadcast User Guide



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www.prophetsys.com

Table of Contents

<i>Configuring NexGen™ Digital</i>	<i>1</i>
Setting Up	2
Station	5
Format Configuration Section	7
Music.....	13
Verify	19
Standard Template.....	20
Export	24
Advanced Settings	27
Source	32
Serial Port	33
EAS Properties.....	34
Spot Blocks	35
Virtual Station.....	37
Users.....	38
Shift	40
CPU	41
Input/Output	49
Source.....	52
Destination	53
Play(back)	54
System	56
Data Transfer	62
WANCasting.....	66

<i>CallTRAC</i>	<i>74</i>
<i>PhoneTRAC.....</i>	<i>78</i>
<i>Serial Port Commands</i>	<i>90</i>
<i>Archiving Audio Records.....</i>	<i>92</i>
<i>Daylight Savings Time</i>	<i>96</i>
<i>Database Server.....</i>	<i>98</i>
<i>Audio Switcher.....</i>	<i>102</i>
<i>Fault Tolerance</i>	<i>103</i>
<i>Recording DRR</i>	<i>109</i>
<i>Rotations</i>	<i>117</i>
<i>Router Configuration.....</i>	<i>119</i>
<i>Unique Number Generation</i>	<i>125</i>

Configuration

Set up the NexGen Digital™ system software.

Set up the NexGen Digital™ System

This section provides you with an overview of setting up the major system software configuration and initial setup of those functions necessary to get NexGen Digital™ up and running. After the system is set up, refer to the online Help (press F1) for detailed field-specific information and “how-to” examples.

Configuration Areas

The Config screens are where you define, maintain, monitor, and administer the hardware and software components that make up the NexGen Digital™ system. Access the Config screens from the NexGen Digital™ desktop by clicking the Config button in the button bar at the top.



Within the Config screens are up to 15 configuration areas (represented by icons in the Config button bar and depending on how your system was set up), each addressing specific elements of the NexGen Digital™ system configuration. Within most configuration areas you can edit an existing record, add a new record, delete a record, or copy a record to use as a template for a new record.



Note: For detailed technical descriptions of specific NexGen Digital™ system hardware components and options, please refer to the provided manufacturer's documentation.

Using the Editing Functions

In most configuration areas you can edit, create new, delete, and copy item configurations. (An exception is System, which you use to specify a CPU name to use as a time-synching source.) The following edit buttons give you access to these functions.



Edit

To edit a record, either double-click the record in the list or select the record and click the Edit button.

New

To create a new record, click the New button. The appropriate form displays for that configuration area.

Delete

To delete a record, select the record in the list and click the Delete button or press your keyboard's Delete key. A confirmation message displays and you must select 'Yes' to delete the record or 'No' to void the process.

Copy

To copy a record, select the record in the list you want to copy and click the Copy button. A dialog similar to the following displays (this example is from the Shift configuration area; other Copy dialogs may differ slightly).

In this example, the NexGen 2001 D'Alternate shift record at station NexGen 2001 was selected as a template for the SteveR shift at station NGDB 2001. All stations (active and inactive) in the NexGen Digital™ system are available from the Destination Station drop down list.

Configuring for the First Time

For new and expanding installations, you would typically configure your NexGen Digital™ system in the following order:

Station

CPU (a)

Input

Output

Play

Source

System

CPU (b)

Destination

Database

Data Transfer

User

Shift

VStation (virtual stations)

CallTRAC

Messages

Station

Use this screen to configure your stations—including traffic and music load configurations—and other station-specific information.

To view, edit, add, or delete a station's configuration, click Station on the Config screen button bar. The Station Configuration screen shows all currently configured stations and the name of the controlling CPU, if assigned. Click a column head to sort the list by that column.

To delete a station's configuration record, select the station record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a station's configuration record, select the station record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes. To add a new station configuration record, click New. Using the following as a guideline, configure the new station and click OK to save the changes and exit or Cancel to exit without saving changes.

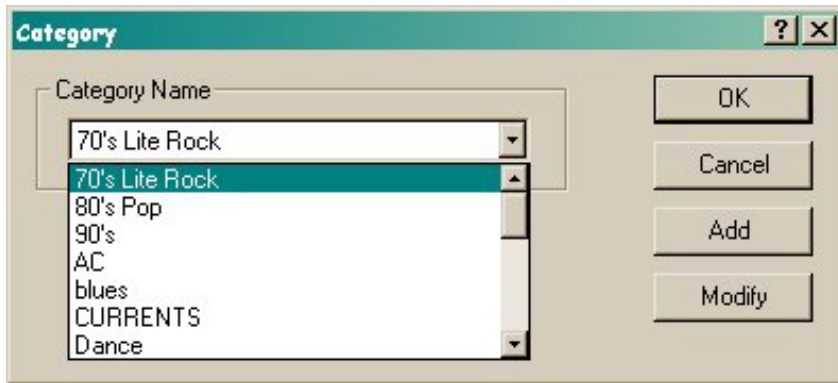
Station Configuration Fields

Name of Station

Enter the name for this station (usually its call letters).

Status - Inactive | Active

Click the appropriate radio button.



Fill Category

If fill categories have been defined within the NexGen Digital™ system (either via Production | Songs or this dialog), they are displayed in the selector or its drop-down list.

You can view or edit an existing fill category (select the category and click **modify**) or Add a new category.

Fade

Fade Time

Enter in milliseconds the default fade time for this station.

Crossfade

Enter in milliseconds the default crossfade time for this station. Crossfade is the amount of overlap used for the Fade and Go events. If this value equals the Fade Time, the effect will be that the next event will start as soon as the prior event starts fading out. This is the typical setting.

Logs

Number of Days to Build Ahead

Indicates how many days ahead the overnight routines should build logs. If a log is not created, the overnights will create an empty log based on the day of the week clock.

Number of Old Logs to Keep

When the overnights run, you can have the system retain a certain number of logs based on this value.

Format Configuration Section

Traffic

Use this dialog to configure the traffic file format you intend to use for loading into NexGen Digital™. The file your traffic system creates for input into NexGen Digital™ should be a file that has information formatted with information in specific columns of the file. This screen tells NexGen Digital™ where to find the load file and what the load file contains. At the top of the screen is a drop-down list of "templates" that you can use to automatically fill out the appropriate fields for some of the more common Traffic Systems. The following outlines the various fields—but note that not all fields are required.

CPU selected in Config -> system for Auto loading Traffic is:

This is the CPU identified in PSi System within Config (from the main toolbar) in the Auto Traffic Load area.

Select Standard Template

You can select your traffic system from several preloaded templates. Applying a Standard Template will fill any required fields with default settings for the selected traffic system.

Format Name

In the event you're using more than one traffic system, you can save the configuration settings under a format name.

The format name was selected or provided in the Format Selection screen (the window that appeared just prior to this one). Maximum number of digits for this field is 49.

Path/Filename

This is the name of the file that NexGen Digital™ will load into the log. This can be a literal filename, or one with variables that will use the log's date to determine the filename. Maximum number of digits for this field is 127. If you prefer to use variables, here is a legend of variables you can use:

@MM - 2 Digit Month

@DD - 2 Digit DAY

@YY - 2 Digit Year

@Y1 - 1 Digit Year

@Y4 - 4 Digit Year

@DW - Characters based on the day of the week, text will be derived from daily fields

@DW - described below.

Description

A description of the spot, also where the system will look for the word BLOCK (followed by one space to allow for the possibility of having a BLOCKBUSTER VIDEO spot in the log) if the event is indicating the beginning of a Spot Block. If the spot does not exist in the system, a TO BE CREATED spot is made, using the description found here as the spot title. This field also provides the text for COMMENTS. NexGen will accept a maximum of 52 characters in this field.

Verify Account

This field is meaningless to NexGen Digital™, but stored for feeding back to the traffic system upon creating a Verify file. NexGen will accept a maximum of 20 characters in this field.

Verify ID

Another field that is meaningless to NexGen Digital™, but stored for feeding back to the traffic system upon creating a Verify file. NexGen will accept a maximum of 20 characters in this field.

Verify Sequence

Some traffic systems produce a unique sequence number for every play of every spot during the day, and this number is used when the Verify file is created to give a full circle accounting of the spot's played status. The only thing NexGen Digital™ does with this field is store it into the log event, to be fed back to the traffic system if a Verify file has been created. NexGen will accept a maximum of 20 characters in this field.

Spot Text File Path

This defines the path to a file containing text to be associated with the loaded spot, including full filename. Typically, a user will enter this text via the Spot editor—provisions have been made, however, to have the text loaded in at Traffic Load time. If there are no other spots with the given spot number and there is a Text File to read in, the system will read in the text from the text file and attach the text to the "To Be Recorded" spot. NexGen will accept a maximum of 30 characters in this field.

Cut Number

This describes the column number of the Cut number and how many digits it is able to accommodate. NexGen is capable of accepting up to 150 cuts with a maximum width of 3 digits. The cut number is optional, typically the cut number is left blank, which loads rotations of the spot into the log.

Spot Number

This is a reference to the NexGen Digital™ spot number. When loaded via Traffic Load, NexGen Digital™ will use this number and insert a Rotation of this number. NexGen will accept a maximum of 8 characters in this field to allow for an hour value.

Block Length

Some traffic systems allow for telling NexGen Digital™ how long the Spot blocks should be—this field provides that information. The length will be in seconds unless the width is set to 5. Maximum number of digits for this field is 3.

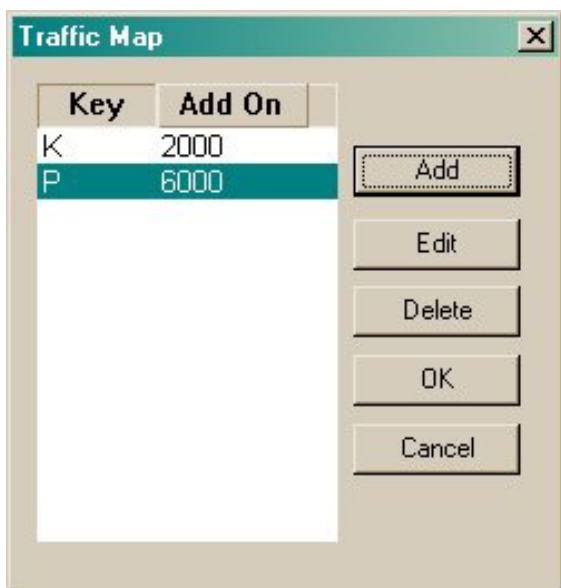
Log Time

The only required field is the HOUR field, which is used to validate that the load is occurring in the correct hour. AM/PM Pos is the column in which an A or P occur in the load file, this value tells NexGen Digital™ in which column that information will be found. NexGen accepts a maximum of 2 characters for the Hour Pos and 2 characters for the Minute Pos. The AM/PM Pos will accept no more than 1 character.

Sorting

With this option turned on, when traffic is loaded, it will sort all spots in each block according to tempo in either ascending or descending order. The tempo to use for each spot is taken from the rotation's tempo field.

Traffic Map Settings



The Traffic Map option allows you to assign a value to a “key” or letter from the alphabet to compensate for the difference in spot number ranges between sites.

For example, if you set up the Key value P to equal 6000 (since a certain type of spot is within that range), then when you receive a spot number p545 from another station, the system will load the spot as number 6545 which will place it in the proper range for you system.

You can also use 2 characters as the Key value where, for example, PR might represent 7000 and spot PR545 would be 7545. Maximum number of digits for the Key value is 2 and 6 digits for the Add On.

@DW definitions for filename

Entries here will be substituted in the filename based on the day of week. For example, if MON is entered and the log being loaded is a Monday log, and the format reads "r:\traffic\@DW.LOG", NexGen Digital™ will attempt to find a file called r:\traffic\MON.LOG. NexGen will accept a maximum of 30 characters for these fields.

Log Date

Not required, but if present will validate the date within the load file is the same as the log date. These fields tell NexGen Digital™ where to find the Month, Day, and Year of the log. Check first line only indicates that the date will only be in the first line of the load file and not every line of the load file. NexGen will accept a maximum of 2 characters in these fields.

Other Options

Delete Traffic Load Markers - Checking this box will cause any traffic load position markers appearing in the log to be deleted following traffic load.

Load Comments - Loads any events that aren't blocks and don't have a spot number as a comment.

Spot Add On - (This is NOT used for most traffic systems, but a feature for those that need it.) This value is added on to all the spot numbers as they are loaded into NexGen Digital™. This is useful for Traffic Systems that have the same spot numbers being used for different clients for different stations.

For example: A site has 4 radio stations, uses Traffic System M. Within the traffic system for station 1, spot 123 is Pepsi, but on station 2 spot 123 is Monster.com. Using the Spot Add On field, on station 1 you could enter 1000, and for station 2 you could enter 2000. When station 1 loads spot 123, it will actually load spot 1123; when station 2 loads it, it will load 2123.

Auto load Traffic

The Auto load Traffic option, when enabled, will scan the path for a valid traffic file name to load. If it encounters a valid traffic file name, it will automatically load that file into the appropriate log. The system uses the station number and date from the file name to determine the log into which the traffic is to be loaded. Checking the Auto load checkbox within the Auto load Traffic area will enable this function. The Auto load CPU must be identified under Config/PSi System.

Auto load Traffic Configuration Options

Delete existing traffic spots when loading hours – If this box is checked, all previously loaded traffic spots will be deleted.

Generate traffic load error report – Check this box to print a traffic load error report. This report indicates if any events failed to load into the log.

Generate block overfill report – Check this box to print a report indicating whether or not your log hours are overfilled or under filled and, if so, by how much.

Generate missing audio report – To view a report showing any events that are missing the audio portion, following a traffic load, check this box.

To Load Traffic:

Select the Logs icon from the main toolbar.

From the Station drop-down menu, select the desired station.

Select the Station Log date to import traffic into.

Select Load (traffic) from the Logs screen toolbar. The Traffic Load Options window opens. Select Load Traffic and press OK.

Under Hour Load (in the resultant Load Traffic window), check the box next to each hour to be loaded with traffic.

For each hour, use the drop down list to select one of four load options:

M (Merge traffic with Station Log). Use this method most of the time. This method does not erase existing events. It fills the existing spot blocks with events from the traffic interface file. It does not create any new spot blocks.

R (Replace between spot blocks). Use this method when you want to replace everything except the events before the first spot block. This method erases everything (all events including spot blocks) between the beginning of the first spot block and the end of the last spot block. It creates new spot blocks if necessary.

W (Replace entire hour). This method erases everything (all events including spot blocks) in the hour. It creates new spot blocks.

D (Delete spots in spot blocks). It erases the contents of the spot blocks without erasing the Spot Block and Spot Block End markers. Then it loads the empty blocks with traffic. It does not create any new spot blocks.

After setting the load options for each hour, click OK to begin importing traffic.

The progress bar starts to fill up. This normally takes less than one minute. When it finishes, the Station Log is loaded with the appropriate events.

NOTE: Maximum number of characters per line per file is 350.

Music

The file your music system creates for input into NexGen Digital™ should be a file that has information formatted in specific columns of the file.

The Music Load File Configuration dialog instructs NexGen Digital™ where to find the load file and what the load file contains.

At the top of the screen is a drop-down list of "templates" that you can use to automatically fill out the appropriate fields for some of the more common music scheduling programs.

The following describes the various fields—but note that not all fields are required.

Path/Filename

This is the name of the file that NexGen Digital™ is to load into the log. This can be a literal filename or one with variables that will use the log's date to determine the filename. If you desire to use the latter, here is a legend of the variables you use:

@MM - 2 Digit Month

@DD - 2 Digit DAY

@YY - 2 Digit Year

@Y1 - 1 Digit Year

@Y4 - 4 Digit Year

@DW - Characters based on the day of the week, text will be derived from daily fields (see @DW).

@DW Definitions for Filename

Entries here will be substituted in the filename based on the day of the week of the log date. For example, if MON is entered and the log being loaded is a Monday log, and the format reads "r:\music\@DW.LOG", NexGen Digital™ will attempt to find a file called R:\MUSIC\MON.LOG

Event Number

The audio number being loaded into the system. If the event is a spot type event (non-song) and no cut is indicated, the system will load a Rotation of this number into the log.

Event Length

If the width is 8, NexGen Digital™ assumes a format of HH:MM:SS, otherwise it will be total seconds.

Log Date

Not required, but if present will validate that the date within the load file is the same as the log date—these fields tell NexGen Digital™ where to find the Month, Day and Year of the log. "Check in first line only" indicates that the date will only be in the first line of the load file and not every line of the load file.

Event Code

If left blank, all events in the load file are presumed to be song events. The Event Code field is dependant on the "Linker Load" checkbox (see below). If Linker Load is left unchecked, the Event Code is expecting a two-digit number. Check the complete list of Event Codes for the proper code.

If an Event Code is not used, all events will be assumed to be songs and loaded into "Empty Song Slots" in the log (unless using Linker Load).

SONG	1	TIME_ANNOUNCE	42
LINERA	2	TIME_ON_LINER_ON	43
LINERB	3	TIME_ON_LINER_OFF	44
LINERC	4	HOURLY_FILL_ON	45
LINERD	5	HOURLY_FILL_OFF	46
LINERE	6	TEMP_ANNOUNCE	47
LINERF	7	TEMP_ON_LINER_ON	48
LINERG	8	TEMP_ON_LINER_OFF	49
LEGAL_ID	9	TEMP_SHIFT_LOCAL	50
SPOTBLOCK	10	TEMP_SHIFT_NETWORK	51
INTRO	11	IGNORE_COMM_OPTO_ON	52
OUTRO	12	IGNORE_COMM_OPTO_OFF	53
RESYNC	13	SILENCE_SENSOR_ON	55
SOURCE_ON	14	SILENCE_SENSOR_OFF	56
SOURCE_OFF	15	MEMO_SPOT	57
RELAY_MOMENTARY	16	DESCREANCY_ON	58
SATELLITE_MODE	17	DESCREANCY_OFF	59
MANUAL_MODE	18	PHONE_CALL	60
SHIFT_CHANGE	19	EST_START_POINT	61
SPOT	22	LIVE_NEWS	63
COMMENTS	23	SET_SONG_PITCH	64
AUTO_MODE	24	FADE_AND_GO	67
SPOT_BLOCK_END	25	PAUSE	70
RELAY_ON	26	EMPTY_VOICETRAC_SLOT	71
RELAY_OFF	27	SET_SHOW_PITCH	72
DEFAULT_SOURCE	28	OPTO_PROCESS_ON	73
PLAY_NEXT_EVENT	30	OPTO_PROCESS_OFF	74
BLOCK_FILL_ON	31	COMM_PORT_COMMAND	77
BLOCK_FILL_OFF	32	TRA_LOAD_POS	78
FADE_OUT_AUDIO	35	SOURCE_OFF_ALL	79
LIVE_COPY	37	MAP_UDE_OPTO	80
PRISTINE_RELAY_ON	38	BLK_FILL_POS	83
PRISTINE_RELAY_OFF	39	UDE_RANGE_BEGIN	100
RESYNC_MODE_ON	40	UDE_RANGE_END	199
RESYNC_MODE_OFF	41	TOH	950
		END_OF_DAY	951

If Event Codes are used, all events (and only events) with an event code of 03 will insert themselves into "Empty Song Slots". All other events will load into the NexGen Digital™ log in relationship to the songs.

"04" is used for spots, which use the Event Number field to load the correct spot, as well as "special" import events dependent on the Title field, as follows (note there is no space in any of these commands):

LINERA - Loads a Liner A event into the log

LINERB - Loads a Liner B event into the log

LINERC - Loads a Liner C event into the log

LINERD - Loads a Liner D event into the log

LINERE - Loads a Liner E event into the log

LINERF - Loads a Liner F event into the log

LINERG - Loads a Liner G event into the log

LINERH - Loads a Legal ID event into the log

PAUSELOG - Loads a Pause Log event into the log, uses the LENGTH field described below if supplied. If no length, Pause Log will be indefinite.

UDE<NAMEOFMACRO> - Loads a Macro into the log

NOTE: The letters "UDE" must be followed immediately by the name of the Macro you wish to load with no space between. If the load routine can match the Macro name to one that exists in the system, it will be loaded into the log.

The Linker Load option uses many more event types and is constantly changing—contact our support department for the latest list of events.

Log Time

If Linker Load is selected, an event that has a time will be assigned a "Hard Start Time". Otherwise, the only field that is mandatory is the HOUR field, to insure that the songs are inserted into the correct hour. The AM/PM field is looking for a one letter indication of A or P (used only if military time is not possible).

Title

This field will contain the song title, a comment description, or a comment for a VoiceTRAC slot depending on the event being loaded into the log.

Cut

Song cut number. If no cut number, a rotation is assumed.

Auto load Music

The Auto load Music option, when enabled, will scan the path for a valid traffic file name to load. If it encounters a valid music file name, it will automatically load that file into the appropriate log. The system uses the station number and date from the file name to determine the log into which the traffic is to be loaded. Checking the Auto load checkbox within the Auto load Music area will enable this function. The Auto load CPU must be identified under Config/PSi System.

Auto load Music Configuration Options

Generate traffic load error report - Check this box to print a traffic load error report. This report indicates if any events failed to load into the log.

Generate missing audio report - To view a report showing any events that are missing the audio portion, following a traffic load, check this box.

Music Load Options

These are checkbox switches you use to control how events get loaded into the log:

Linker Load - With this turned on, the music load program will replace the NexGen Digital™ log with the load file—the music file must contain all events that need to play during the day, including top of hour markers, spot block markers, and so forth. This switch also switches to a different set of "Event Numbers" than are outlined above. Please contact your Technical Support department for a complete list of events and event numbers for the Linker Load option.

Load Audio irrespective of Day Part Restrictions - With this switch on, the music load routine will not check station dayparting when loading a song. If unchecked—and if a song is not dayparted for that station, day, hour in the log—the song will not load.

Delete Empty Song Slots - After the music load is complete, if this option is checked, any song slots in the log that have not been filled will be deleted automatically. If unchecked, you will be prompted to delete them after the load is complete.

Report on Daypart Restricted Audios - When checked, the system will report songs that had daypart restrictions to the load error report.

Load Song Notes - Allows loading song notes via the music load. If enabled, a line with three spaces at the beginning will be assumed to be a song note. You can have up to 10 concurrent lines of song note material after a song event. The text will be loaded into the database and associated with the song event.

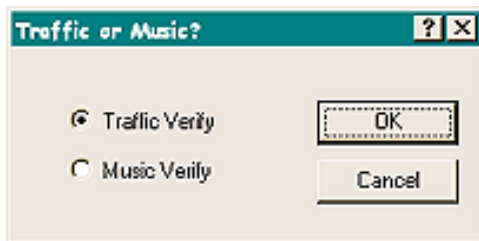
Don't Create "To Be Recorded" Songs - When not checked, and the load routine attempts to load a song number that does not exist, the default action is to load the song into the log and create a "To Be Recorded" Song in the Production area. When checked, the system will simply not load the song, nor create a "To Be Recorded" song, and will report this discrepancy to the "Load Error" Report upon completion of the load.

Spot Text File Path

The path to a text file containing spot text to be associated with the spot being loaded into the log.

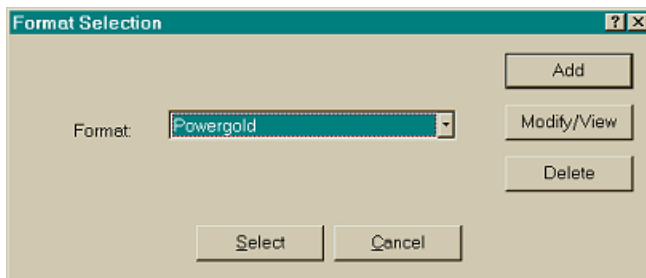
Verify

NexGen allows the user to define a format to Export text files to identify exact play times for songs (Music Verify) or Spots (Traffic Verify). Many scheduling products allow for a return file, some do not. Select the Verify button to display the Verify dialog. If verification formats have been defined within the NexGen Digital™ system, they will be displayed in the selector or its drop-down list. You can view or edit an existing definition or Save a new configuration.



When you click Verify, the following dialog asks you to specify whether you wish to verify Traffic or Music.

Make your selection and click OK. The Format Selection dialog appears for the chose format.

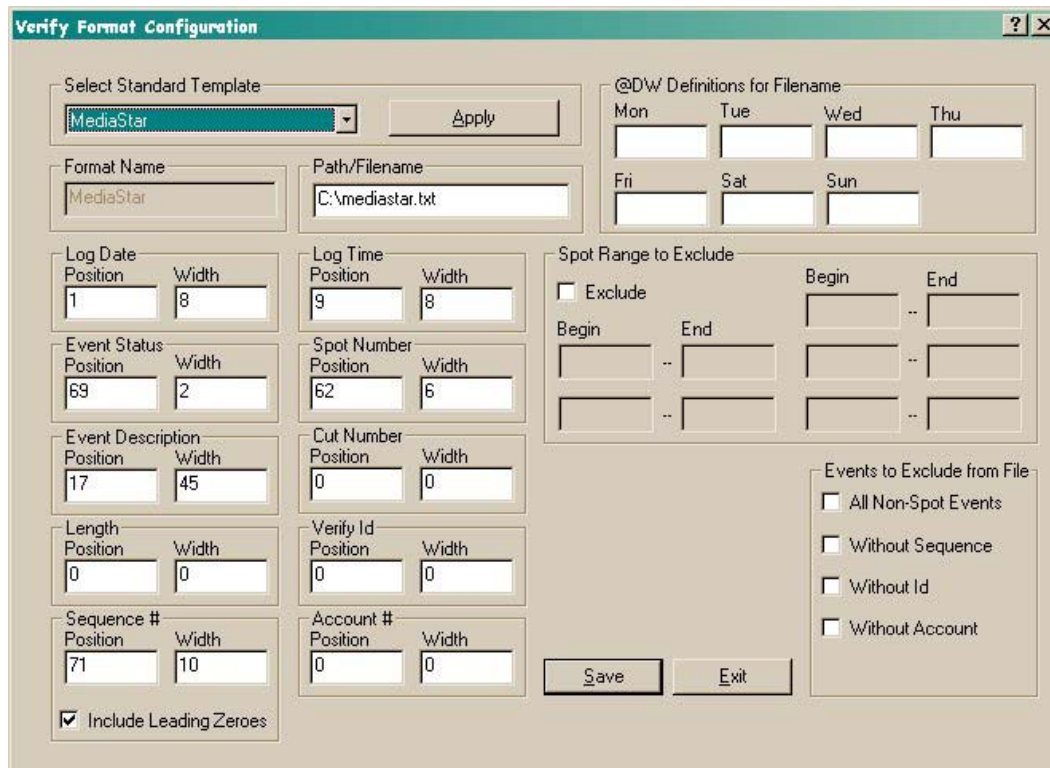


Click on the format from the drop-down list and click Select. To edit or view the format configuration, click Modify/View. To add a new configuration, click Add. You may also delete a format by selecting Delete.

Once you've chosen the format you're using and either selected Add or Modify/View, the Verify Format Configuration dialog box will display.

Select Standard Template

You can select your format template from several preloaded templates. Applying a Standard Template will fill any required fields with default settings for the selected format.



The **Verify Format Configuration** dialog box is used to configure a format template. It includes the following sections:

- Select Standard Template:** A dropdown menu showing **MediaStar** and an **Apply** button.
- Format Name:** A text field containing **MediaStar**.
- Path/Filename:** A text field containing **C:\mediastar.txt**.
- @D/W Definitions for Filename:** A grid of checkboxes for days of the week (Mon, Tue, Wed, Thu, Fri, Sat, Sun).
- Log Date:** Position **1**, Width **8**.
- Log Time:** Position **9**, Width **8**.
- Event Status:** Position **69**, Width **2**.
- Spot Number:** Position **62**, Width **6**.
- Event Description:** Position **17**, Width **45**.
- Cut Number:** Position **0**, Width **0**.
- Length:** Position **0**, Width **0**.
- Verify Id:** Position **0**, Width **0**.
- Sequence #:** Position **71**, Width **10**.
- Account #:** Position **0**, Width **0**.
- Spot Range to Exclude:** A section with checkboxes for **Exclude** and **Begin** **End** ranges.
- Events to Exclude from File:** A list of checkboxes: **All Non-Spot Events**, **Without Sequence**, **Without Id**, and **Without Account**.
- Buttons:** **Save** and **Exit** buttons.
- Include Leading Zeros:** A checked checkbox.

Format Name

You can save the configuration settings under a format name. The format name was selected or provided in the Format Selection screen (the window that appeared just prior to this one). Maximum number of digits for this field is 49.

Path/Filename

This is the filename under which NexGen will save the verify information. This can be a literal filename, or one with variables that will use the log's date to determine the filename. Maximum number of digits for this field is 127. If you prefer to use variables, here is a legend of variables you can use:

@MM – 2 digit month

@DD – 2 digit day

@YY – 2 digit year

@Y1 – 1 digit year

@Y4 – 4 digit year

@DW – Characters based on the day of the week, text will be derived from daily fields

@DW - Definitions for Filename – Explained below

Log Date

Not required, but if present will validate the date within the verify file is the same as the log date. These fields tell NexGen Digital™ where to find the Month, Day and Year of the log. NexGen will export a maximum of 8 characters in this field.

Event Status

Reports the status of the event as to whether or not the event played, not played, ejected or no audio found. The results are displayed using a two digit code. The code 0 indicates the system skipped this event due to block overflow, the code 1 indicates that the event has played, at this time, code 2 is not used, 3 indicates that the event was re-synced and skipped by the system, 4 indicates that the event was skipped by the user, code 5 indicates that the event start time was outdated and skipped by the system, code 6 indicates that the event was skipped because of an Audio Server restart, code 7 indicates some kind of play error was encountered, code 8 indicates the event was skipped because the audio was in the process of being recorded, code 9 indicates the event was skipped because no audio could be found for this event, code 30 indicates a general "Not Played" error.

Event Description

As expected, this provides a description of the event. It identifies the event as a spot, song or other event type and will export a maximum of 45 digits.

Length

This field provides you with the length of the event as played so you can determine whether or not the event played completely. NexGen will export a maximum of 8 digits for this field.

Sequence #

Some traffic systems produce a unique sequence number for every play of every spot during the day and this number is used when the Verify file is created to give a full circle accounting of the spot's status. The only thing NexGen Digital™ does with this field is store it into the log event, to be fed back to the traffic system if a Verify file has been created. NexGen will export a maximum of 10 digits including leading zeros (if the Include Leading Zeros box is checked).

Log Time

This field will export the time at which an event played.

Spot Number

This field will export a maximum of 6 digits and will provide the number of the event.

Cut Number

This describes the column number of the Cut Number and how many digits it is able to accommodate. NexGen is capable of exporting up to 150 cuts with a maximum width of 3 digits. The cut number is optional, typically the cut number is left blank, which loads rotations of the spot into the log.

Verify ID

This field is meaningless to NexGen Digital™, but is stored for feeding back to the traffic system upon creating the Verify file. NexGen will export a maximum of 20 characters in this field.

Account #

This field is meaningless to NexGen Digital™, but stored for feeding back to the traffic system upon creating a Verify file. This would be an account number assigned by you to assist in determining whether or not an event needs to be replayed. NexGen will export a maximum of 20 characters in this field.

@DW Definitions for Filename

Entries here will be substituted in the filename based on the day of week. For example, if MON is entered and the log being loaded is a Monday log, and the format reads "r:\traffic\@DW.LOG, NexGen Digital™ will attempt to find a file called r:\traffic\MON.LOG. NexGen will export a maximum of 30 characters for these fields.

Spot Range to Exclude

If you wish to exclude a range of Spots from the Verify file, check the Exclude box and enter the beginning and ending spot numbers of those you wish to exclude.

Events to Exclude from File

If you wish to exclude any of these items from the Verify file, check the appropriate box. For example, if you wish to exclude all events that are not spots (items such as songs or traffic report) check the box associated with All Non-Spot Events.

Select Save to save all your changes and exit, select Exit to exit without saving.

Export

Use the Format Export Data dialog to tell the Audio Server what information to export about the currently playing event and how to export it. This data can be used by RDS radio display systems, display panel, integrated into a station website, or any other area of your enterprise where you need information like this.

Common Settings

Export Format(s)

Export #1 | Export #2 | Export #3 | Export #4

Common Settings

Active: ☒ Yes ☐ Append to File

Format: ☐ Overwrite File

Output:

Name:

Included Audio Types

☒ Songs ☒ News ☒ Memos

☒ Spots ☒ Beds ☒ VoiceTracs

☒ Promos ☒ Bits ☒ Phone Calls

☒ Segues ☒ Effects ☒ Time Announce

☒ Shows ☒ Liners ☒ Temp Announce

☒ Fill ☒ Legal Ids

File Settings

Field Separator:

Record Separator:

Standard Format Settings

Line	Lead Text	Field to Output
Line 1	By	Artist - Primary Artist name for Song
Line 2		(NONE)
Line 3		(NONE)
Line 4		(NONE)
Line 5		(NONE)
Line 6		(NONE)
Line 7		(NONE)
Line 8		(NONE)
Line 9		(NONE)
Line 10		(NONE)

TCP/IP Notification Settings

Port:

I.P. Address:

Other Options

☒ Truncate Song length to milliseconds

Pre-Notify time (in milliseconds):

Active - Select from the drop-down list whether the export is active or not. If No, no processing occurs.

Format - Select from the drop-down list the export format for the information. The choices are Standard, Audio Sense, TCP/IP Notification, and PDT. Standard uses the format defined in the boxes below. Audio Sense and PDT use a proprietary format. Use TCP/IP Notification for WAN or Internet environments.

Output - Select how you want the exported data outputted—enabled for Standard, Audio Sense, and PDT formats. Your choices are File, Printer, Comm, and AES-18.

Append to File, Overwrite File - Determines whether the output file is overwritten each time a new audio starts playing or is appended to by the new audio information.

Send Songs - Determines whether song audio data is to be exported.

Send Others - Determines whether non-song audio data is to be exported.

Name - This is the name of the file to export data to, including drive and path.

File Settings

Field Separator - Use to indicate what will be inserted between each field.

Choices for the Standard format are:

CR/LF - Inserts a carriage return and line feed between each field.

Tab - Inserts a tab between each field

Other - Inserts the character contained in the field to the right in between each field

Record Separator - Use to indicate what will be inserted between each record.

Choices for the Standard format are:

CR/LF - Inserts a carriage return and line feed between each record.

Tab - Inserts a tab between each record

Other - Inserts the character contained in the field to the right in between each record

Standard Format Settings

Each time an audio record starts playing, you can have the system export up to 10 lines of data about that audio using the Standard format. These fields define what data is exported and what labels to use for each field.

Lead Text - This is optional text you enter which precedes the audio field upon export. For example, you may choose to use "By" before each artist's name.

Field to Export - Select from the drop-down lists to choose which fields are exported and in which order they appear in the export file.

TCP-IP Notification Settings

If you had selected TCP/IP for the export format, these fields are active and contain the port and IP address to send export messages to.

Connect to a remote client via TCP/IP to a designated port. If a connection is lost, or not initially established, NexGen Digital™ Broadcast attempts to re-connect at regular intervals. A ping notification is sent every 10 seconds, allowing the recipient to know that communication still exists. A mode change notification is sent whenever the current mode (auto, live assist, satellite) changes. A play notification is sent prior to and at the time of the execution of a spot block. Included in this notification is the length of the block to be played. The amount of advance notice time defaults to 15 seconds, but can be controlled by the user of the system. If the current mode is live assist, notification is sent n seconds prior to the completion of the previous audio, since the actual time of execution is unknown.

Other Options

Truncate milliseconds

When enabled, truncates the exported length to a tenth of a second as opposed to a full 3-digit millisecond value. This is used to provide clarity to the length field.

Pre-notify time (in milliseconds)

Checking this box will cause the system to send a notification prior to Export.

Settings Section

Click a button under the Settings Section to bring up dialogs you use to specify parameters for source, relay, data transfer, data transfer mapping, and EAS properties.

Advanced Settings

Click Advanced Settings to bring up a dialog to specify advanced settings for this station, including audio duck parameters, top-of-hour defaults, and others.

STATION - Advanced Settings

When Performing Top of Hour
Execute First Event in Next Hour when Underfill is < 000:00.000
☒ Top of Hour Acts as Resync

Hour Fill Options
Use Fill Material when Underfill is < 000:00.000
☒ Hour Fill Fade to Top of Hour
☒ Rotate Audio Algorithm
☐ Best Fit Algorithm

When Playing Back Events at Adjusted Rate
Close Relay: Output 2001
 Show Temperature
☒ Fahrenheit
☐ Celsius

Audio Duck
 Default Audio Event to Fill Empty VoiceTRAC Slot: Play Legal ID

Miscellaneous Settings
☐ Play Thru Top of Hours and Resyncs in Auto Mode
☐ Pause Audio Server on Text Event if in Auto Mode or Spot Block
☒ Generate Verify File for Station for Overnights
☐ Classical Station
☒ Check Crossfades of Spots against Intros of Songs
☒ Don't Re-cue stopped events if > 50% complete
☒ Don't Auto-Switch Opto Triggered Audios
☒ Eject Event on Stop Opto if Event is not Playing

In Satellite Mode
☐ Store Liner Calls to Play at End of Blocks
☐ Turn Off Current Source when Playing a Single Audio

Liners
☒ Use Default Liner if Unable to Generate Requested Liner
☒ Accept Liner and ID Optos in Live Assist Mode
☒ Accept Liner and ID Optos in Automatic Mode

	Mute Satellite	Momentarily Trip Relay
Liner A	<input checked="" type="checkbox"/>	Output 2001
Liner B	<input checked="" type="checkbox"/>	Output 2001
Liner C	<input checked="" type="checkbox"/>	Output 2001
Liner D	<input checked="" type="checkbox"/>	Output 2001
Liner E	<input checked="" type="checkbox"/>	Output 2001
Liner F	<input type="checkbox"/>	None Selected
Liner G	<input type="checkbox"/>	None Selected
Legal ID	<input type="checkbox"/>	None Selected

More Miscellaneous Settings
Return to Show Fade Up Time 0 Milliseconds

When Performing Top of Hour

Execute First Event in Next Hour when Underfill is: This value is used to prevent the system from using hour fill when the hour is short by only a small amount. When the hour falls short but within this window, the system will begin playing events from the next hour instead of filling with fill material.

Top of Hour Acts as Re-sync - Checking this box will allow the top of hour to act as a re-sync in the log, eliminating the need for a re-sync at the end of the hour.

In Satellite Mode

Store Liner Calls to Play at the End of Blocks - If the system receives a liner OPTO during a spot block and this box is checked, its execution will be deferred until after the end of block has played.

Turn Off Current Source When Playing a Single Audio - If a single audio is played by the user, outside of a spot block, while in satellite mode, the current source will be turned off for the length of the audio as if it had played from within a spot block.

Hour Fill Options

Use Fill Material when Underfill is < - When the hour fill logic is filling out an hour and the shortcoming is within this amount of time, rather than choosing a song from the Fill Category, the system will choose audio from the fill audio found in production.

Hour Fill Fade to Top of Hour - If hour fill is necessary, rather than possibly playing over the top of hour, hour fill will fade the fill material to meet the top of the hour using the fade value defined for this station.

The Rotate Audio Algorithm - This method pays no attention to the amount of space required. Instead, the system rotates through all the fill songs.

Best Fit Algorithm - The default method takes any fill song that hasn't been used as fill in the past two hours and picks the best one to fit.

When playing Back Events at Adjusted Rate

Close Relay - The system can be set up to close a relay while playing back audio at a pitched rate. By using this relay closure, you can cause the audio to play back and sound faster. Putting a piece of equipment inline, you can pitch it back to the original speed, thereby making it sound more "normal".

Show Temperature

Allows the control room to display the current temperature (presuming a Temp Probe has been properly installed and configured), in either Celsius or Fahrenheit.

Audio Duck

Ducking audio means that the audio level of one type of audio will be reduced to allow the playback of another more clearly. Press this button to configure Ducking. For detailed configuration information please see Audio Ducking Settings Dialog below.

Default Audio Event to Fill Empty VoiceTRAC Slot

If the log contains VoiceTRAC slots that for some reason don't get VoiceTRACs recorded to them, rather than have no station identification, you may opt to generate a certain audio type to cover for the lack of VoiceTRAC. Your Choices are Liners A through G or Legal ID.

Miscellaneous Settings

Play Thru Top of Hours and Re-syncs in Auto Mode - With this checked, if the system encounters a top of hour or a re-sync in the log as the next event, it will play through that event.

Pause Audio Server on Text Event if in Auto Mode or Spot Block - When checked, the system will pause the log when it encounters a text event.

Generate Verify File for Station for Overnights - Checking this will cause the system to generate a Verify file for this station automatically in accordance with the format defined elsewhere in station configuration.

Classical Station - Checking this changes the labels on some of the Production fields of songs as follows:

comment -> composer

artist -> conductor

alt_artist -> orchestra

composer -> soloist

licensor -> soloist

Check Crossfades of Spots against Intros of Songs - When the system is playing a spot type event (spot, segue, etc..) prior to going into a song type event, checking this box will cause the system to check the crossfade of the spot against the intro of the song, to make sure that it will not "step" on the vocal of the song (typically marked by the intro post).

Don't Recue Stopped events if > 50% complete - If audio is stopped by a stream specific OPTO, or the item specific stop and more than 50% of the audio has played, checking this box will prevent the re-cue of that event. Instead, it will assume the user is finished with the audio and the next item in the log will be cued up. This is designed primarily for occasions when you're using the console to fire events and you want to be able to pull the fader down before the audio is complete and turn the pot off.

Don't "Auto-Switch" OPTO Triggered Audio - The default operation of the Play Next X OPTO is to replace the next event in the cue with an event from the "X" device and to then play that event. By checking this particular config item, the system will instead maintain a "mini-cue" of events that are locked to specific devices (indicated by a yellow background on the pot label). Firing an OPTO for Play Next X will instead result in the playing of the event locked to device X.

Eject Event on Stop OPTO if Event is not Playing - Checking this item will cause the first event that is assigned to device X to eject whether or not device X is locked. Activation of this feature only occurs when the system receives a Stop X OPTO and nothing is playing on device X.

Liners

Use Default Liner if Unable to Generate Requested Liner - If a liner is called for in the Audio Server, the system will attempt to play a "shift specific" liner. Checking this item will cause the system to attempt to resolve the liner with one from the default shift if it is unable to generate a liner for the current shift.

Accept Liner and ID OPTOs in Live Assist Mode - When checked, the system will accept liner and id OPTOs while in Live Assist Mode. If this item is not checked, the OPTOs for these types of events will be ignored.

Accept Liner and ID OPTOs in Automatic Mode - When checked, the system will accept liner and id OPTOs while in Auto Mode. If this item is not checked, the OPTOs for these types of events will be ignored.

Mute Satellite - This checkbox dictates whether the given liner will cause the audio server to mute the current satellite source while it is playing. If muted, the satellite source will return upon the Crossfade value of the particular liner. Momentarily

Trip Relay - When a relay is assigned here and the given liner is played, the audio server will also generate a momentary relay closure on that relay.

More Miscellaneous Settings

Return to Show Fade up Time - When playing back a show and returning from a spot block, the show's audio will fade up over this amount of time. The shorter the value the more aggressively the show will return.

Audio Ducking Settings Dialog

The settings in this dialog allow the user to reduce the level of one type of audio to allow the playback of another, more clearly.

Events to Duck - These are the events that are subject to ducking, while overlapped by checked audio in left hand column.

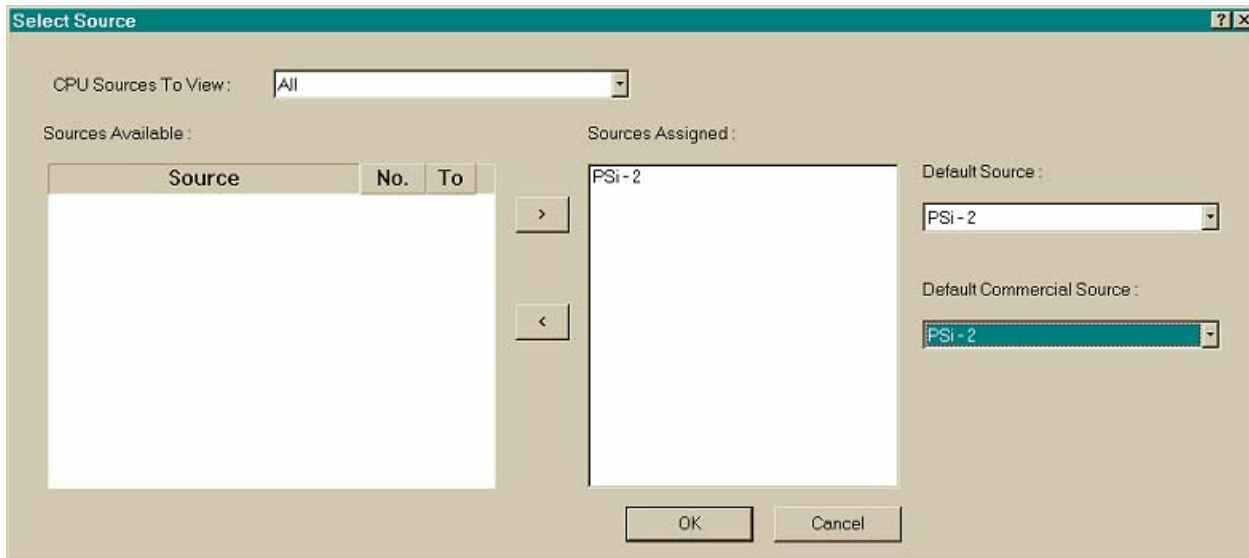
Audio Type	Events to Duck	Fade to Level	Fade Time
<input checked="" type="checkbox"/> Liners and Legal ID	<input checked="" type="checkbox"/> Songs	1% [Slider] 100% 50	000:03.000
<input type="checkbox"/> News	<input type="checkbox"/> Shows	1% [Slider] 100% 50	000:03.000
<input checked="" type="checkbox"/> Promo	<input type="checkbox"/> Beds	1% [Slider] 100% 50	000:03.000
<input checked="" type="checkbox"/> Seque		1% [Slider] 100% 50	000:03.000
<input type="checkbox"/> Shows		1% [Slider] 100% 50	000:03.000
<input checked="" type="checkbox"/> Spots		1% [Slider] 100% 50	000:03.000
<input type="checkbox"/> Temp Announce		1% [Slider] 100% 50	000:03.000
<input type="checkbox"/> Time Announce		1% [Slider] 100% 50	000:03.000
<input checked="" type="checkbox"/> VoiceTRAC		1% [Slider] 100% 50	000:03.000

Buttons: Select All, Clear All, OK, Cancel

If one of the audio types from the left hand column plays while one of the checked audio events at the top is playing, the "ducked" (the audio event checked at the top of this dialog) audio will drop its volume to a level designated by the Fade to Level. A standard Fade to Level would be 60%. The aggressiveness of the fade can be adjusted by the Fade Time associated with the audio type that is being overlapped. The longer the fade time, the slower the fade up and fade down.

Source

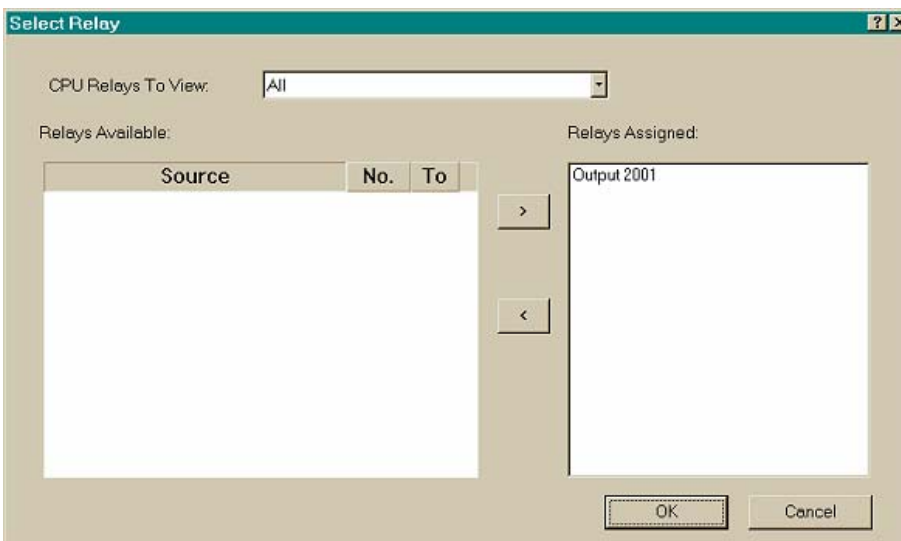
Allows sources to be assigned to this radio station. When assigned, they can be selected from the control room screen or inserted as log commands.



Select the source(s) you will be using and click > to move them to the right window and make them active. Select the Default Source and Default Commercial Source from the drop-down lists.

Relay

Allows relays to be assigned to this radio station.

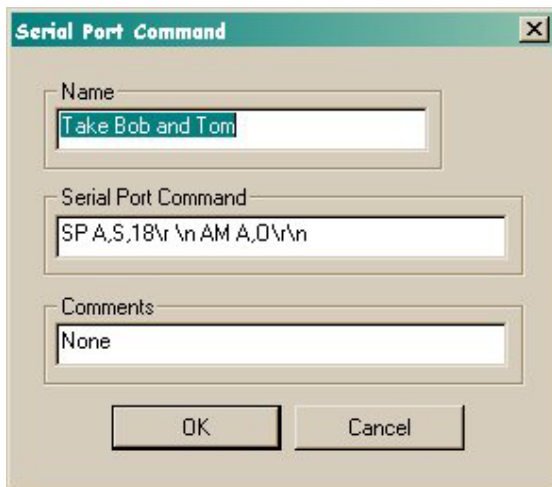


When assigned, they can be selected from the control room screen, and used in log commands.

Select the relay(s) you will be using and click > to move them to the right window and make them active.

Serial Port

This dialog box allows you to configure the Serial Port Commands.



The Serial Port Command can be inserted into the log as a command or included in a macro that appears in the log. This allows you to control a peripheral device from your log such as turning on or switching a satellite channel.

Name

Enter a command or macro you wish to insert into the log. The device you wish to control must be configured under config/cpu/IO

Serial Port Command

Enter the command string for the peripheral device. If you need to add a carriage return to the end of the command string, place a `\r` at the end, to add a new line to the command string, place a `\n` at the end, `\xFF` would be hex FF, `\123` would be octal 123, to enter a tab `\t`, a vertical tab requires `\v`. See the documentation packaged with the peripheral device for additional commands that may be specific to the device.

Comments

This field is optional. You may enter explanatory comments here.

EAS Properties

Select to enter the primary and secondary EAS properties and additional parameters.

The screenshot shows the 'EAS Parameters' dialog box. It is divided into three main sections: 'Test EAS Parameters', 'Secondary EAS Test', and 'Actual EAS Parameters'. Each section contains two input fields: 'Audio' and 'Macro', both of which are currently set to 'None'. To the right of each 'Audio' field is a 'Modify...' button, and to the right of each 'Macro' field is a 'Select..' button. At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

Primary (and Secondary) EAS Test-

Audio- Allows for recording of the EAS TEST audio that is to precede the EAS tones from the EAS box. When this audio number plays in the log, the Audio Server will recognize that it is an EAS test and will fire the Macro defined below upon completion of the audio, typically will be a relay closure to trigger the tones from an EAS box.

Macro- This Macro will execute upon completion of the EAS audio.

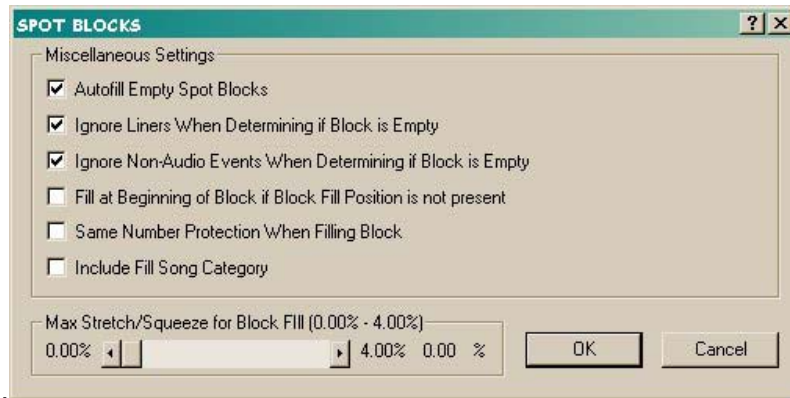
Actual EAS Parameters- These parameters are used in the event of an actual EAS activation, as determined by the receipt of an EAS OPTO.

Text- A message will appear on all machines with the control room for this station indicating to the user that an EAS message has arrived.

Macro Name- This macro will be executed upon receipt of an EAS OPTO.

Spot Blocks

Select to enter specifications for the handling of spot blocks.



Autofill Empty Spot Blocks- If enabled, the Audio Server will fill a spot block that has NOTHING in it. If not enabled, the system will only fill a spot block if some events are already present in the block.

Ignore Liners when Determining if Block is Empty- If Enabled and a spot block contains only a LINER event, the block will not fill, unless autofill empty spot block is enabled.

Ignore Non-Audio Events when Determining if Block is Empty- If enabled and a spot block contains non audio events the block will not fill, unless autofill empty spot block is enabled.

Fill at beginning of block if Block Fill Position is not present- If checked and a Block Fill Position is not contained in the spot block, the fill material will get loaded at the beginning of the spot block, as opposed to the default END of the spot block.

Same Number Protection When Filling Block- If the system needs to fill a block when this feature is enabled, it will only use ONE occurrence of a fill number within the block. For example, the system chooses fill number 4500 as one of the pieces of audio for fill. Should the system require a second piece of audio for fill for that block, it will NOT select another cut of 4500. This is useful to put same type fill material in the same fill number and know that they won't be repeated within the block.

Include Fill Song Category - If you wish to include song fill in your Spot Blocks, you'll need to check this box.

Max Stretch/Squeeze for Block Fill- Determines how much pitch can be applied to contents of a spot block to get the length to the correct size. The Maximum settable is 4%. The audio server will not stretch or squeeze beyond these limits and will only use as much as it needs to correct the length of the spot block to the maximum value.

Number of Executed Events to Show in Control Room

Drag the slider or click the left and right arrows to specify the number of executed events (up to five) to be displayed in the Active Control Room Log.

Length of Pad

This feature is used in the rare occurrence that you want to have silence between audio events. These settings allow you to determine how much silence is forced between Spots or Songs. Typically this is only used in Classical formats.

Song – Enter the maximum allowable dead air (pad) for a song in milliseconds.

Spot – Enter the maximum allowable dead air (pad) for a spot in milliseconds.

Destination

This is used when a router option has been purchased. The value here represents the output on the router that is used for this station.

Time to Display Live Copy/News Text Before Spots Start

When the audio server is playing back a live copy/news spot, this value determines how much lead time the audio server will display the text on the screen before the end of the current audio.

Notification Relay

This is a relay that will be turned on within X seconds of the end of a song or sport block, and turned off at the completion of the event. The purpose of the Notification Relay is to turn on a light indicating that the event is about to conclude. The default is to turn on this relay only in Live Assist Mode.

Close End of Song Notification Relay in All Modes – If unchecked, will only be performed in Live Assist.

Close End of Song/Block Notification relay X Milliseconds Before End of Song/Block – The amount of time from the end of the events to turn on the relay.

End of Spot Block Notification Relay – This is where the End of Spot Block Notification Relay gets defined for this station and is a different relay than for Songs.

Virtual Station

Virtual Stations are used in setting up and utilizing WANcasting. Use this screen to configure virtual stations—including traffic and music load configurations—and other virtual station-specific information.

With the exception of the Status (Active or Inactive) selection—which is unavailable for Virtual Station—the Virtual Station configuration is the same as Station configuration. Please refer to the Station configuration section for specific information on the fields and additional dialogs.

To view, edit, add, or delete a station's configuration, click VStation on the Config screen button bar. The Virtual Station Configuration screen shows all currently configured virtual stations and the name of the controlling CPU, if assigned. Click a column head to sort the list by that column.

To delete a virtual station's configuration record, select the virtual station record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a virtual station's configuration record, select the virtual station record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new virtual station configuration record, click New. Using the following as a guideline, configure the new virtual station and click OK to save the changes and exit or Cancel to exit without saving changes.

User

Use this screen to set up users on the system, including passwords and rights to access specific functions. For system administrators, this is your single-most powerful tool for setting up exactly who has access to what: in all, there are nearly 100 screen and function view, edit, and print permissions you can set to fine-tune system access.

To view, edit, add, or delete a user configuration, click User on the Config screen button bar. The User Configuration screen shows all current users; to see just a list of "talent-only" users, check Show talent-only users in the toolbar area.

To delete a user's record, select the user record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a user's record, select the user record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new user record, click New. Using the following as a guideline, configure the new user and click OK to save the changes and exit or Cancel to exit without saving changes.

Name of User

Enter the user's name. This will be the name they use to log into the system.

Password

Enter here - Enter the password for this user.

Confirm here - Re-enter the password to confirm.

User Attributes

ID - Enter up to three characters as an ID for this user, or leave blank and the system will supply an ID based on the first three characters of the user name.

Talent - If this user is to be tracked as a talent resource, check this box.

Station

Select the station this user is to be associated with. If she or he is associated with more than one station, create a user profile for each station.

User Template

To save a series of user rights templates—which you can subsequently select to apply to individuals—click Save As when you complete a user rights configuration you want to save. (Checkmark 'apply to all stations' if you want this template available to all stations in the network.) Enter a name for this new template and click OK. To apply a template, enter the user information and select a template from the drop-down list.

Primary Rights

For each NexGen Digital™ area you select in the window, a set of checkboxes displays. Check the boxes that correspond to the specific rights you want given to this user for this area. The example above shows the rights available for Control Room.

Shift

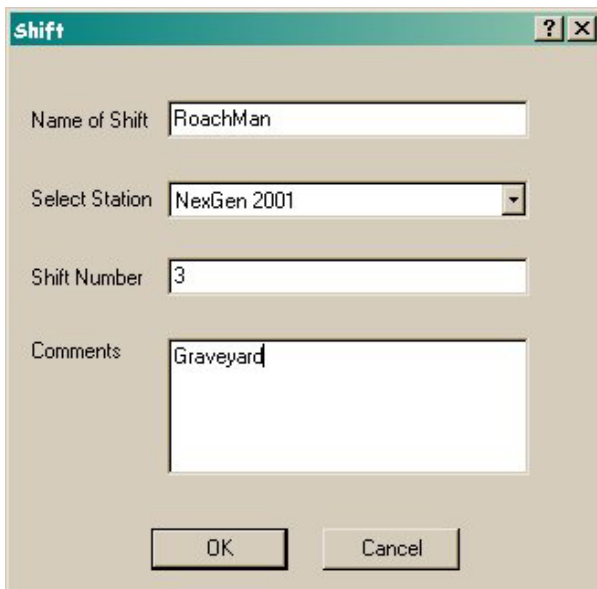
Use this screen to set up shifts on the system, including appropriate comments. The shifts you define become available for selection from the Active Control Room Log.

To view, edit, add, or delete a shift configuration, click Shift on the Config screen button bar. The Shift Configuration screen shows all configured shifts by station and with comments. Click a column head to sort the list by that column.

To delete a shift's record, select the shift record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a shift's record, select the shift record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new shift record, click New. Using the following as a guideline, configure the new shift and click OK to save the changes and exit or Cancel to exit without saving changes.



Name of Shift

Enter a unique name for this shift.

Select Station

From the drop-down list, select the station for this shift.

Shift Number

Enter a shift number for this shift.

Comments

Enter comments you want associated with this shift.

CPU

Use this screen to configure your CPUs and assign stations to be controlled by this CPU. Each CPU can control up to eight stations; each discrete NexGen Digital™ system can control up to 128 stations (for a minimum of 16 CPUs networked in the system). During initial system setup and configuration, you may need to return to this set of CPU configuration screens incrementally as other subsystems are configured.

To view, edit, add, or delete a CPU's configuration, click CPU on the Config screen button bar. The CPU Configuration screen shows all currently configured CPUs and the CPU's IP address. Click a column head to sort the list by that column.

To delete a CPU's configuration record, select the CPU record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a CPU's configuration record, select the CPU record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new CPU configuration record, click New. Using the following as a guideline, configure the new CPU and click OK to save the changes and exit or Cancel to exit without saving changes.

The screenshot shows the CPU Configuration window. The 'CPU Name' field is 'ASERV001 NGDB 2001'. The 'Local Record Device' dropdown is 'WPSI001AUDI001 ribo'. The 'Network Address' is '10 . 60 . 114 . 217'. The 'Station' section has eight buttons labeled 1 through 8. The 'Miscellaneous Settings' section has the following checked options: 'Enable Autoload for Wancasting', 'Fire Liners and Legal IDs from Keyboard', 'Fire Audio Server Events from Keyboard', 'Fire Audio Server Events Using Keyboard Right/Left Arrows', 'Allow CPU to switch to a Hot Spare', and 'CPU is a Hot Spare'. The 'CPU is an Emergency Control Room' and 'Ignore Play Optos During Relay Momentary' options are unchecked.

CPU Name

Enter a unique name for this CPU. The name can be up to 23 characters in length. (If you are configuring for a router, click [here](#) for information on setting up a router from scratch.)

Local Record Device

Select the device that will be used locally for recording functions. If you are initially configuring the NexGen Digital™ system, recording devices may not have been defined yet.

Network Address

Enter this CPU's IP network address, if it is not already displayed. Click Clear IP to clear the field and enter a new address. TIP: If you're not certain what the IP address for this CPU is, make sure you are logged into the network, open an MS-DOS window and type IPCONFIG on the command line. Press Enter and note the IP address. Type EXIT on the command line to close the MS-DOS window.

Local Playback

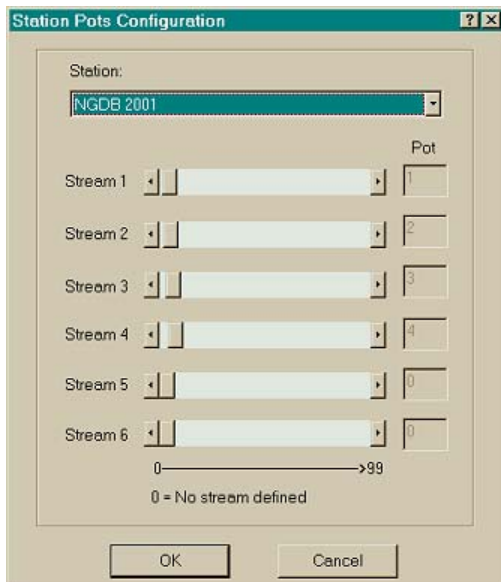


Click Local Playback to configure the playback devices for the Wall, ButtonBar, and VoiceTRAC. This is where you can assign a Playback device for any of the Playback Items after defining those devices in Config | Play.

Select an item from the window list and select a playback device for this item from the Playback Device drop-down list.

Station Pots

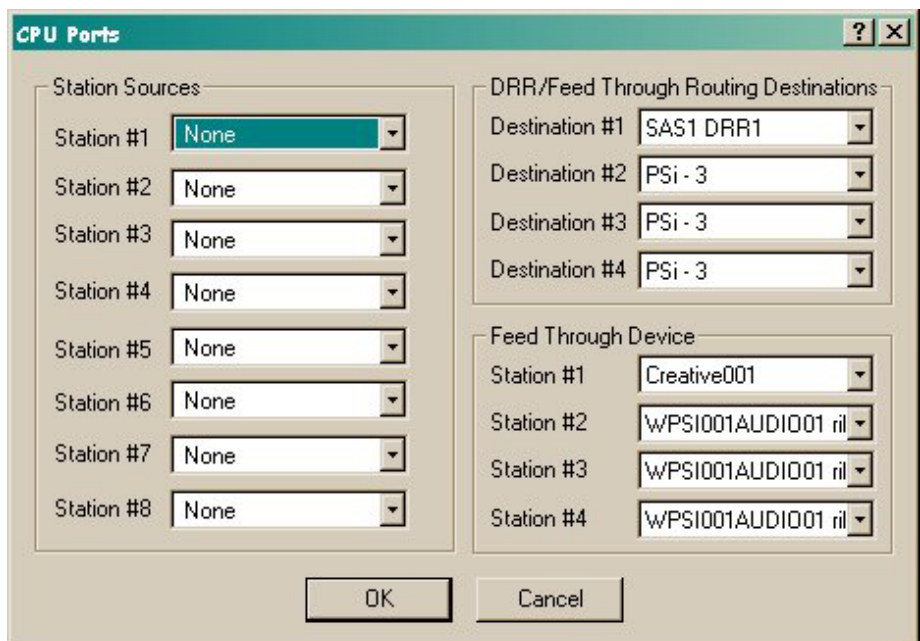
Click Station Pots to identify the pot values (0 – 99) for each station.



Select a station from the drop-down list and use the slider control to assign a value to each pot.

Ports

These settings allow you to route any of your sources to any destinations as defined in CFG|Destinations.



Digital Reel to Reel (DRR)

Click DRR to configure your digital reel-to-reel system. Each CPU that will be running the DRR module needs to be set up. To access the screen shown below, go to Config | CPU and press the DRR button. The following outlines what each configuration item represents.

of Logs to Build Ahead

When the overnight routines run, they can be configured to automatically ensure that DRR logs are created several days out. This setting indicates how many days for which the overnights should create DRR logs.

Satellite Box Used

This contains a list of supported audio switchers, including DIRECT SOURCE, which indicates that there is no audio switching, the audio is fed directly into the DRR machine's audio card(s) without any audio switching at all.

of Record Cards

Indicates the quantity of Record cards, up to four, contained on the CPU.

NOTE: It is important for you to note that both OPTO Records and Timed Records can be used on cards one through three. The fourth card can only be used for Timed Records.

Com Port Settings

Com Port, Baud Rate, Parity, Data Bits, and Stop Bits. Describe how the Satellite box communicates with the CPU.

NOTE: For DRRs this does NOT need to be set up under the Config > CPU > IO settings. You can have up to four ACU1 units with unique addresses on a single serial chain.

Watchdog

A watchdog process can be enabled (requires wdog_tsr.com to be loaded prior to windows startup). This value is the number of seconds that the watchdog timer will count down, minimum is 5 seconds, and ZERO indicates that the feature is disabled. While the DRR is running, it will keep resetting the watchdog timer. If there is a system failure and the DRR controller stops responding, the timer will reach zero and reboot the CPU.

Momentary

This is the length of time in milliseconds that a Momentary relay lasts.

Record Card Mapping

This section of the DRR configuration deals with mapping of OPTO-isolated closures (OPTOS). The first two OPTOs for each record card are hard coded for START and STOP of the recordings. The other OPTOs can be assigned as a liner call, a call to play a spot block, Play Next Event, Fade and Go, Fade out Audio, or a Relay Momentary call. These "other" OPTOs are captured when recording the SHOW audio type.

Satellite Box

This section allows the users to assign which Satellite box number corresponds to a given record card. Typically the numbers are the same, which is much easier to follow.

Other Settings

Source

Before you can assign the DRR sources to the DRR, you must first create them in Config|Sources. Once created, you can come to this screen and assign any needed sources to this CPU's DRR.

Relay

Before you can assign the DRR relays to the DRR, you must first create them by going to Config|Output. Once created you can come to this screen and assign any needed relays to this CPU's DRR.

DRR Active

If selected, the CPU is identified as running the DRR module. The next time that this CPU is restarted, it will initialize all the DRR settings and launch the DRR Controller.

Record

Use this to create the "default" record settings for each Record card. The user can override these settings at the time of creating a new DRR event within a DRR clock or DRR log.

Mode - Auto or Manual – Auto mode waits to exceed the audio threshold defined in "Auto Stop Level" defined below, Manual starts recording immediately.

Ending - Determines whether or not to turn the source off at the end of the recording.

Format - MPEG or DOLBY (Note AudioScience Cards will NOT support recording in Dolby)

Type - Stereo or Mono recording. If Mono, it will record program from the LEFT input as a MONO file.

Sample Rate - 48000, 44100, 32000 are the choices, the higher the number the better quality, but also uses more hard drive space.

Compression - Shows applicable compression ratios for the given sample rate. The higher the number the LOWER the quality and less drive space occupied. All ratios are XX to 1 ratios.

Auto Stop Level - Inactive if Manual mode is selected above. This represents a relative amount of audio required to start and stop recording in auto mode. 1000 is roughly 100%.

Auto Stop Delay - Inactive if Manual mode is selected above. This represents how long the recording will continue with levels below the Auto Stop Level before terminating the recording. A typical setting is 1 second, though longer or shorter may be required depending on the program being recorded.

Background

DRR Recording must be properly configured and active for this feature to function. The value in this field indicates how much time is allowed between setting up a background DRR recording and the time it will actually begin recording.

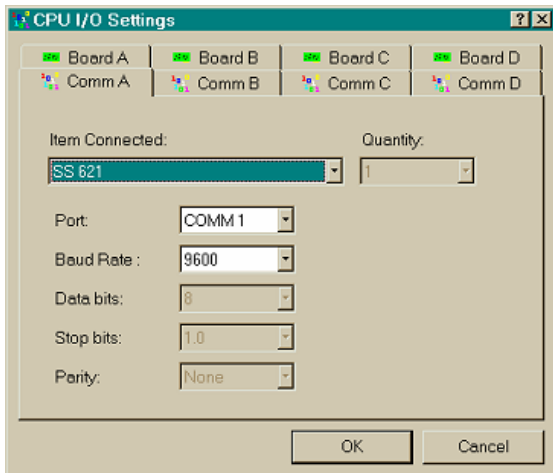
For example; if you want to set up a background recording of a spot from the Production screen, open the production screen check to see that Spots is highlighted and press the 'New' button to create a new spot.

Give the spot an appropriate name in the Title field, and press the DRR button in the lower right area of the dialog box. A popup box will appear requiring a length for the recording.

After a length has been entered and you've pressed OK, another dialog box will appear allowing you to select from which source you want to record this spot.

The next dialog box to appear provides you with the opportunity to change record settings such as Format, Type, Sample Rate and Compression for this particular recording.

Finally, after pressing OK in this box, you will be asked if you wish to send the DRR information. Recording will begin (in the case shown above) 11 seconds after you press OK.

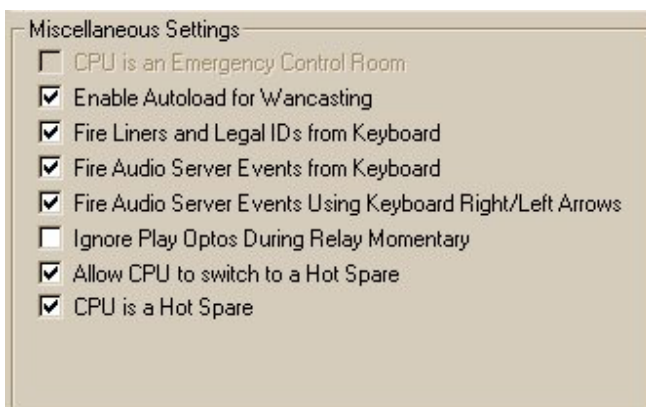
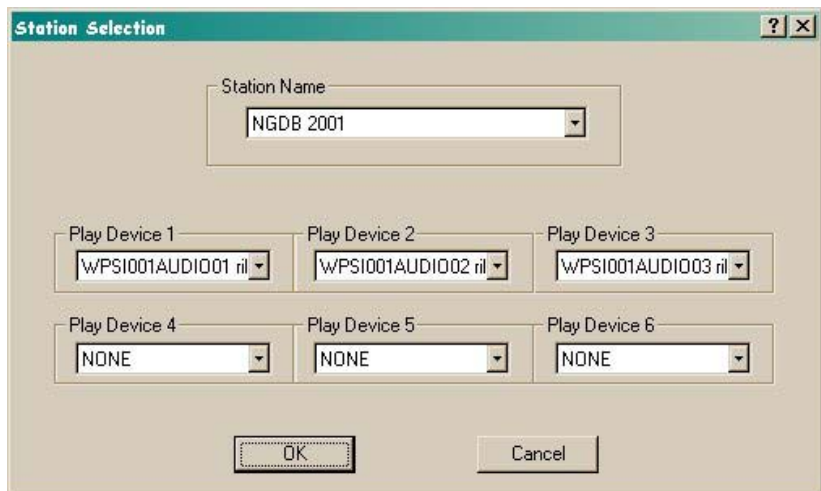


CPU I/O Settings

Click I/O to set the input/output (I/O) for each defined device attached to a COM port.

Station

Click the button for each station controlled by this CPU to set the audio play devices.



Miscellaneous Settings

Click the checkbox adjacent to the settings you want enabled for this CPU. Checking CPU is an Emergency Control Room will designate this CPU as an Emergency Control Room CPU.

If this is checked, you will also need to designate the Play Devices for each station.

Input

Use this screen to configure your input devices by controlling CPU and station.

To view, edit, add, or delete an input device's configuration, click Input on the Config screen button bar. The Input Configuration screen shows all currently configured input devices and associated CPU, card type, slot, bit, and station. Click a column head to sort the list by that column.

To delete an input device's configuration record, select the input record you want to delete and click Delete. Click YES on the warning dialog to delete the record or NO to exit without deleting the record.

To edit an input device's configuration record, select the input record and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new input configuration record, click New. Using the following as a guideline, configure the new input device and click OK to save the changes and exit or Cancel to exit without saving changes.

The screenshot shows the 'INPUT' configuration dialog box. It has a title bar with a question mark and a close button. The dialog is divided into several sections: 'Name' with a text field containing 'PSi-1'; 'CPU' with a drop-down menu showing 'ASERV001 NGDB 2001'; 'Station' with a drop-down menu showing 'NGDB 2001'; 'Opto Events' with a drop-down menu showing 'Play'; 'Type' with radio buttons for 'Undefined', 'ACU1', 'SeaLevel', 'SS1' (selected), 'SS2', and 'Wheatstone'; 'Device' with radio buttons for '1' (selected), '2', '3', and '4'; and 'Bit Position' with a text field showing '1' and a spin box with '16' and '1'. At the bottom are 'OK' and 'Cancel' buttons.

Name

Enter a unique name for this input device.

CPU

Select the controlling CPU for this input device from the drop-down list.

Station

Select the station for this input device from the drop-down list. Note that the station names that show in this list are dependent on the CPU name you selected. If your station does not appear in the list, make sure the correct controlling CPU is selected first.

OPTO Events

Select the OPTO event type from the drop-down list.

Type

Click the radio button that matches this card type.

Device

Click the radio button that corresponds to the card slot in which this device is installed.

Bit Position

Drag the slider or click the left and right arrows to specify the bit position for this input device.

Output

Use this screen to configure your output devices by controlling CPU.

To view, edit, add, or delete an output device's configuration, click Output on the Config screen button bar. The Output Configuration screen shows all currently configured output devices and associated CPU, card type, slot, and bit. Click a column head to sort the list by that column.

To delete an output device's configuration record, select the output record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit an output device's configuration record, select the output record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new output configuration record, click New. Using the following as a guideline, configure the new output device and click OK to save the changes and exit or Cancel to exit without saving changes.

Name

Enter a unique name for this output device.

CPU

Select the controlling CPU for this output device from the drop-down list.

Momentary Closure Time

Enter the time, in milliseconds, for momentary closure.

If your station is configured to allow entry of a delay or offset value, then entering 0 as the event length will cause immediate execution of this command, a length greater than 0 will delay the execution of the command until the event length delay has passed.

Type

Click the radio button that matches this card type.

Device

Click the radio button that corresponds to the card slot in which this device is installed.

Bit Position

Drag the slider or click the left and right arrows to specify the bit position for this output device.

Source

Use this screen to configure your source devices by controlling CPU and station. (If you are configuring for a router, click [here](#) for information on setting up a router from scratch.)

To view, edit, add, or delete a source device's configuration, click Source on the Config screen button bar. The Source Configuration screen shows all currently configured source devices and associated CPU, source type, box number, card address, and number position. Click a column head to sort the list by that column.

To delete a source device's configuration record, select the source record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a source device's configuration record, select the source record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new source configuration record, click New. Using the following as a guideline, configure the new source device and click OK to save the changes and exit or Cancel to exit without saving changes.

Name

Enter a unique name for this source device.

CPU

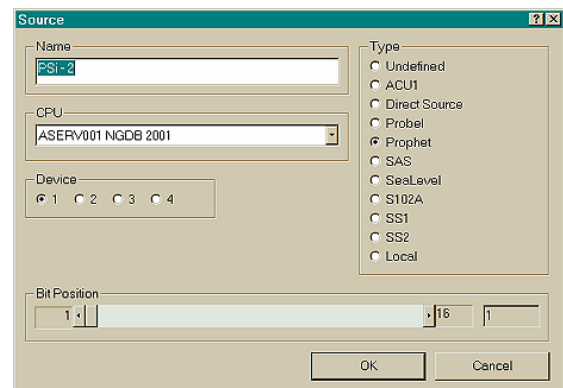
Select the controlling CPU for this source device from the drop-down list.

Type

Click the radio button that matches this source type.

Bit Position

Drag the slider or click the left and right arrows to specify the station's hardware number position for this source device.

The image shows a 'Source' configuration window. It has a title bar with a question mark and a close button. Inside, there are several fields and controls: a 'Name' text box containing 'FSI-2'; a 'CPU' dropdown menu showing 'ASERV001 NGDB 2001'; a 'Device' section with four radio buttons labeled 1, 2, 3, and 4, where button 1 is selected; a 'Type' section with a list of radio buttons: Undefined, ACU1, Direct Source, Probel, Prophet (selected), SAS, SeaLevel, S102A, SS1, SS2, and Local; and a 'Bit Position' section with a slider bar ranging from 1 to 16, with the slider positioned at 1. At the bottom right are 'OK' and 'Cancel' buttons.

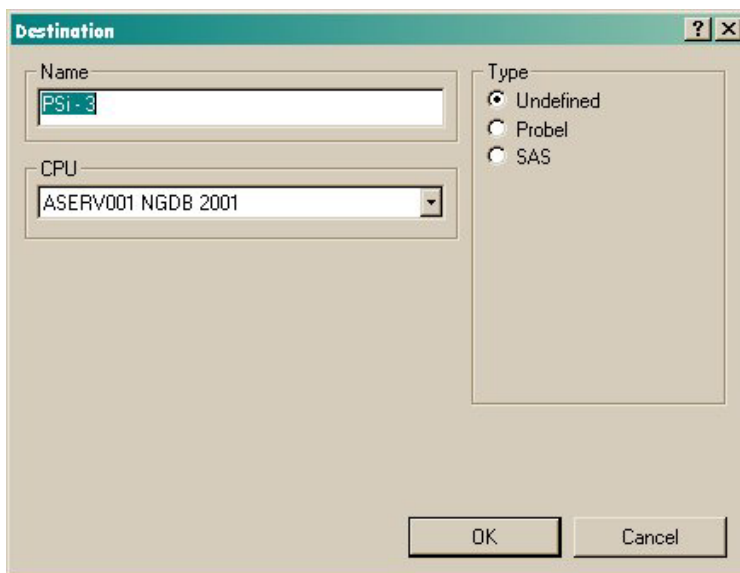
Destination

Use this screen to configure audio switch destination by controlling CPU. To view, edit, add, or delete a destination configuration, click Destination on the Config screen button bar. The Destination screen shows all currently configured destinations by CPU. Click a column head to sort the list by that column.

To delete a destination configuration record, select the destination record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a destination configuration record, select the destination record you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new destination configuration record, click New. Using the following as a guideline, configure the new destination and click OK to save the changes and exit or Cancel to exit without saving changes.

The image shows a 'Destination' dialog box with a title bar containing a question mark and a close button. Inside the dialog, there are three main sections: 'Name' with a text input field containing 'PSI-3', 'CPU' with a drop-down menu showing 'ASERV001 NGDB 2001', and 'Type' with three radio button options: 'Undefined' (which is selected), 'Probel', and 'SAS'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Name

Enter a unique name for this destination.

CPU

Select the controlling CPU for this destination from the drop-down list.

Type

Click the radio button that matches this switcher.

Bit Position

Drag the slider or click the left and right arrows to specify the bit position for this destination.

Play(back)

Use this screen to configure your playback audio devices by controlling CPU.

To view, edit, add, or delete a playback device's configuration, click Playback on the Config screen button bar.

The Playback Configuration screen shows all currently configured playback devices and associated CPU, card type, slot, and stream number. Click a column head to sort the list by that column.

To delete a playback device's configuration record, select the record you want to delete and click Delete. Click YES on the warning message to delete the record or NO to exit without deleting the record.

To edit a playback device's configuration record, select the playback record and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new playback configuration record, click New. Using the following as a guideline, configure the new playback device and click OK to save the changes and exit or Cancel to exit without saving changes.

If you have an AudioScience card, set it up as device 1, streams 1-4. If you have Antex cards, set them up as device 1, stream 1; device 2 stream 2; device 3 stream 3; and so forth.

Name

Enter a unique name for this playback device.

CPU

Select the controlling CPU for this playback device from the drop-down list.

Type

Click the button that matches this card type.

The **PLAYBACK** dialog box contains the following fields and controls:

- Name:** WPSI001AUDIO02 ribo
- CPU:** ASERV001 NGDB 2001
- Device:** Radio buttons for 1, 2, 3, and 4. Radio 1 is selected.
- Start Relay:** Output 2001
- Stop Relay:** Output 2001
- Type:** A list of radio buttons: Undefined, ANTEX 9, ANTEX 26, ASI 4111, ASI 4113, ASI 4130, ASI 4215, ASI 4601, ASI 4701, and PSI 30. ASI 4215 is selected.
- Restrict Audio Server to select only for:** A grid of checkboxes:

<input checked="" type="checkbox"/> Songs	<input checked="" type="checkbox"/> Promos	<input checked="" type="checkbox"/> Segues	<input checked="" type="checkbox"/> News	<input checked="" type="checkbox"/> Temperature	<input checked="" type="checkbox"/> EAS
<input checked="" type="checkbox"/> Spots	<input checked="" type="checkbox"/> Liners	<input checked="" type="checkbox"/> Shows	<input checked="" type="checkbox"/> Bits	<input checked="" type="checkbox"/> Voice TRAC	<input checked="" type="checkbox"/> Bed
<input checked="" type="checkbox"/> Effects	<input checked="" type="checkbox"/> Legal	<input checked="" type="checkbox"/> Fill	<input checked="" type="checkbox"/> Time	<input checked="" type="checkbox"/> Phone Calls	<input type="button" value="All Off"/>
- Stream Number:** A slider control with arrows and input boxes. The value is 1, with a range from 100 to 2.
- Pot Number (0 = Unassigned):** A slider control with arrows and input boxes. The value is 0, with a range from 99 to 0.
- Buttons:** OK and Cancel.

Device

Click the button that corresponds to the card slot in which this device is installed.

Start Relay

From the drop-down list of output relays, select the relay you wish to use to activate this Play device.

Stop Relay

From the drop-down list of output relays, select the relay you wish to use to deactivate this Play device.

Restrict Audio Server to select only for

When this device plays, it will only play the audio events checked here. If an event is not checked here, it will not play through this device.

Stream Number

Drag the slider or click the left and right arrows to specify the stream number for this audio device.

Pot Number

Drag the slider or click the left and right arrows to specify the pot number for this audio device.

System

Use this screen to specify the CPU to be used for time-synching and set other system variables. You can only select a CPU that has already been configured in the network.

To view, edit, add, or delete system configuration, click System on the Config screen button bar. The Modify System Record dialog shows the currently configured system.

Time Sync

CPU

Select the CPU from the drop-down list on which the station will rely for time-synching.

TimeSync Time

The time to which an incoming OPTO closure should update the system.

TimeSync Window (sec)

The amount of time before and after the sync time in which a time sync will be accepted.

TimeSync Delay (sec)

The application of the time sync will be offset by the entered amount. This is to keep time sync pulses from being applied exactly at the top of the hour when audio server activity is at its peak for the hour.

Configure

Audio Type Ranges

Click to access a form for specifying the audio types and number ranges for the system. The audio types you select here are represented in the Production screen with buttons in the Production toolbar. If an audio type is not selected here, it is not available in Production. The ranges specified here are used for organizing the system and separating audio events when they arrive via WANcasting.

Production Defaults

Click Production Defaults to display a dialog used to specify production parameters. Specify default End dates, Archive dates and Erase dates for the system.

System Paths

Click this button to set the network path to the Operating folder, Archive folder, Overnight folder and Transaction folder. By default, this is set to R:\NexGen by Prophet Systems. Backup paths are set here as well, generally in a folder with the same name but on a different network drive.

Days Messages Kept

Read

Enter the number of days that read messages should be kept before they are deleted.

Unread

Enter the number of days that unread messages should be kept before they are deleted.

Audio Format

(Used when AFC is installed on a CPU)

Song Format

Silence Trimming

Check the box preceding Trim silence from ends of audio if you want NexGen to automatically trim the silence from both ends of the audio when audio conversion is necessary. When you check this box, a slider will appear so that you may set the Beginning and Ending levels at which you wish the system to begin trimming. You may either move the slider or press the forward or backward arrows to set these levels.

Audio

Change Audio - Active only when either Wizard Editor or Mini-Editor are being used. By checking this box, you're telling the system to convert all songs that you import, to the format specified in the following fields.

Format - Select the audio format from the drop-down list.

Sample Rate - Select the sample rate for this audio format from the drop-down list.

Compression - Select the compression for this audio format from the drop-down list.

Normalization

Check the box preceding Normalize audio if you want NexGen to automatically set the level of the resulting audio. Recommended standard level is -10 dBFS when audio conversion is necessary.

VoiceTRAC Format

Silence Trimming

Check the box preceding Trim silence from ends of audio if you want NexGen to automatically trim the silence from both ends of the audio. When you check this box, a slider will appear so that you may set the Beginning and Ending levels at which you wish the system to begin trimming. You may either move the slider or press the forward or backward arrows to set these levels.

Normalization

Check the box preceding Normalize audio if you want NexGen to automatically set the level of the resulting audio. Recommended standard level is -10 dBFS.

Audio

Change Audio: Active only when either Wizard Editor or Mini-Editor are being used.

Format - Select from the drop-down list the audio format.

Sample Rate - Select from the drop-down list the sample rate for this audio format.

Compression - Select from the drop-down list the compression for this audio format.

Other Audio Format

Silence Trimming

Check the box preceding Trim silence from ends of audio if you want NexGen to automatically trim the silence from both ends of the audio.

Normalization

Check the box preceding Normalize audio if you want NexGen to automatically set the level of the resulting audio. Recommended standard level is -10 dBFS.

Audio

Change Audio - Active only when either the Wizard Editor or Mini-Editor are being used.

Format - Select from the drop-down list the audio format.

Sample Rate - Select from the drop-down list the sample rate for this audio format.

Compression - Select from the drop-down list the compression for this audio format.

Auto Traffic Load

From the drop down list of CPUs, select the one that will be tasked with auto-loading traffic.

Network

System Backup CPU

Select from the drop down list, which CPU will be tasked with acting as backup CPU for the system.

Network Delay(ms)

Reduces network traffic by introducing this much delay. Recommended delay is 50 ms.

IP Mask

This is a standard IP mask used to eliminate outside packets.

Overnights

Check the Run Automatically box if you want the overnight routines to begin at a given time each day without human intervention. (Recommended)

Options

The Options dialog allows you to select or deselect numerous, various functions available in the overnight routines. For additional detail, visit [Utilities | Overnights](#)

Run on CPU

Select the CPU you want the overnight routines to run on from the drop down list of CPUs.

NOTE: It is NOT recommended that this be a CPU that is vital to remaining on the air such as an audio server.

Time to Start

Enter the time in 24-hour format the overnight routines are to begin.

Email Setup

NexGen provides an Email option that can be configured to generate a message containing designated system information acquired from the Overnight routines. In the event our Technical Support Staff needs to troubleshoot your system, this utility can be implemented to provide valuable system information. The e-mail dialog box requires the NexGen Site Name, Email CPU (or the CPU belonging

to the person that will typically be sending the e-mail). Additional options include Overnight E-mail Options and Emergency E-mail Options.

Utilities

Feed Through Routing

Used with the ASI 4601 audio card, checking this will allow AES audio to be routed through the card.

Debug CPU

Select from the drop-down list, which CPU will receive diagnostic information. Used primarily by Prophet Systems Technical Support.

Hot Spare

Monitor

If you are set up to use pooled hot spare for this system, select the monitor CPU that will be responsible for detecting the need for hot spare activation.

Notification

This is a relay that will be turned on in case of a failure in the system. Currently, if a mapped drive fails or if one of the databases is not running on a redundant database system, the relay will be turned on.

Delay Time

The Delay Time ensures that each machine has access to the network by dividing up the write process. When one machine is utilizing the network, it will write in segments then stop for the time period specified here then continue to write. This gives other machines on the network time to access the database or otherwise utilize the network.

Drive List

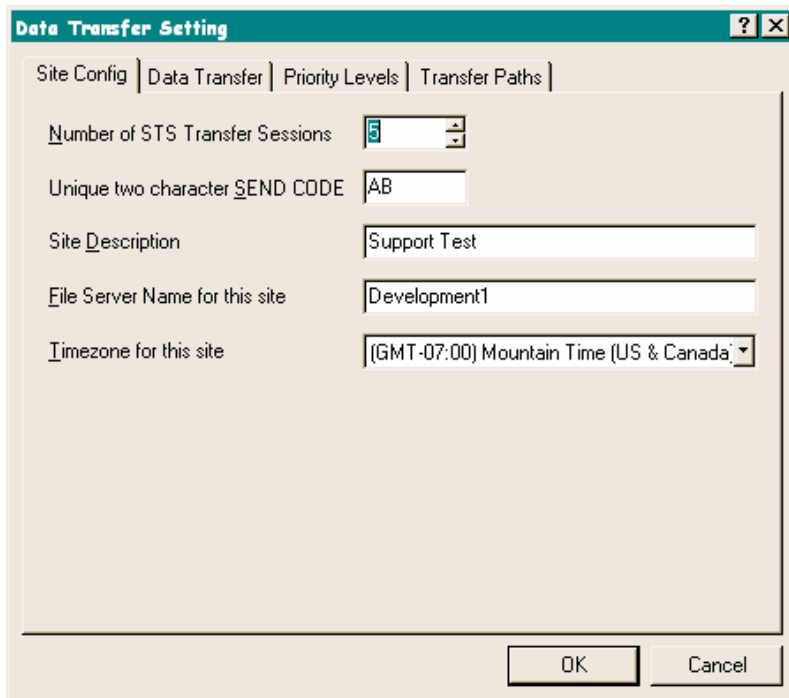
This section lists each drive and what drive (if any) is it's backup drive (BACKUP) as well as what it will backup; songs & spots, songs (STATUS).

Miscellaneous Settings

Check this box to clear the counts when a new element is added to a rotation. When a new cut is added to a rotation, the system will clear the count of the number of times the existing cuts have played. All cuts will begin the rotation process with a zero count.

Data Transfer

Use this screen to configure your data transfer (WANcasting) options.



The image shows a Windows-style dialog box titled "Data Transfer Setting". It has four tabs: "Site Config", "Data Transfer", "Priority Levels", and "Transfer Paths". The "Data Transfer" tab is selected. Inside the dialog, there are five labeled fields: "Number of STS Transfer Sessions" with a spinner box set to 5; "Unique two character SEND CODE" with a text box containing "AB"; "Site Description" with a text box containing "Support Test"; "File Server Name for this site" with a text box containing "Development1"; and "Timezone for this site" with a dropdown menu showing "(GMT-07:00) Mountain Time (US & Canada)". At the bottom right are "OK" and "Cancel" buttons.

WANcasting is the PSi technology that allows the transferring of data across systems and stations via NexGen Digital™ and CFS 16 (AudioWizard™).

The data you can transfer include audio, VoiceTRAC™, and logs (which include traffic, music load, and verification files).

How to configure WANcasting: System Settings

To configure WANcasting at the system level, click Config from the Main Toolbar and click Data Transfer. In the resulting dialog box, click Settings (under the System area) for access to the configuration dialogs.

Review the following discussion and screen examples for information on how to set up the system to enable WANcasting. A subsequent section describes the process for identifying and configuring individual stations.

Site Config

Number of STS Transfer Sessions

Enter the maximum number of available STS (Server Transfer System) transfer session streams, up to a maximum of 99. Typically, each site is assigned one stream of its own.

Unique Two Character SEND CODE

Enter a unique two-character code to be used as the SEND CODE (used in naming the packets) for the system. This character code is completely random.

Site Description

Enter a site description (also used for tracking the packets).

File Server Name for this site

Enter the file server name. This is the file server where incoming and outgoing packets are stored pending transmitting or processing.

Time Zone for this site

Enter the time zone of this site. WANcasting uses the time zone to determine the difference in the timings between two sites to prioritize the sending of packets to be transmitted.

Data Transfer

Enable Data Transfer

Click this checkbox to enable or disable the WANcasting module for the current site.

Enable Heads and Tails Transfer

Click this checkbox to enable or disable heads-and-tails transfer.

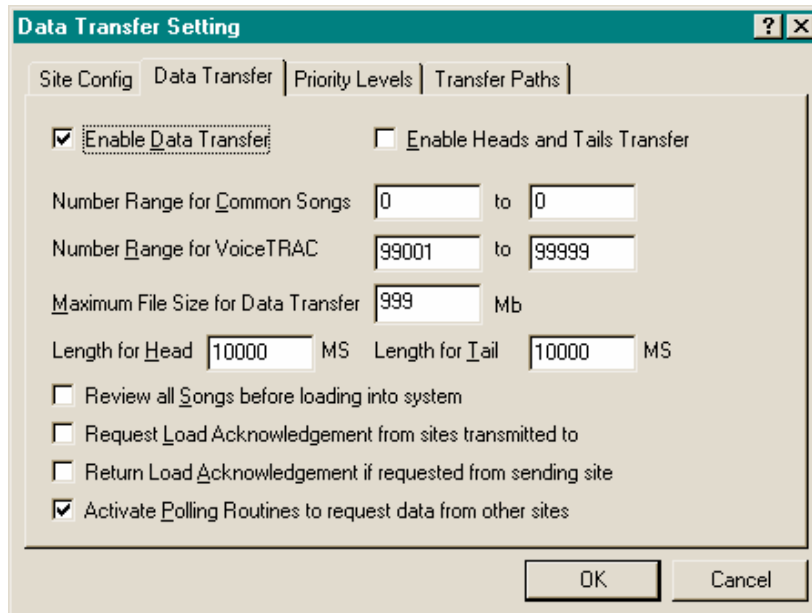
Number Range for Common Songs

Enter the song number range you want treated as "common songs". When you send a song that is numbered within this range, WANcasting sends it as an autoload song. If the song also falls in the "common song" range for the receiving station, it is then autoloaded (i.e., automatically loaded without any user interaction required).

Number Range for VoiceTRAC

Enter a range of numbers for WANcasting to use to identify VoiceTRACs. This is necessary because in NexGen Digital™, VoiceTRACs are not assigned spot numbers—while in CFS 16, VoiceTRACs do have spot numbers.

The number range you enter is used while transmitting a VoiceTRAC: WANcasting assigns a spot number from this range to the VoiceTRAC to maintain compatibility between NexGen Digital™ and CFS 16.



Maximum File Size for Data Transfer

Enter the maximum allowable transfer file size.

Review All Songs Before Loading Into System

Checkmark this to nullify autoloading (common songs) and force user-interaction for all songs before they are loaded.

Request Load Acknowledgement from sites transmitted to

Click to enable or disable a load acknowledgement from the receiving site.

Return Load Acknowledgement if requested from sending site

Click to enable or disable sending a load acknowledgement to the sending site.

Activate Polling Routines to request data from other sites

Click to enable or disable the polling of log, music, and traffic load and verification files from other sites.

Priority Levels

There are five priority levels to define: the priority for any transmission is set depending on the time the event is scheduled to play.

For each level, enter the number of hours within which the event is to play.

The screenshot shows the 'Data Transfer Setting' dialog box with the 'Priority Levels' tab selected. The dialog has four tabs: 'Site Config', 'Data Transfer', 'Priority Levels', and 'Transfer Paths'. The 'Priority Levels' tab contains five rows, each representing a priority level. Each row has a label 'Level #', a description 'Events scheduled to play within', a numeric input field, and the unit 'hours'. The input fields contain the values 1, 3, 8, 24, and 48 respectively. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Level	Description	Hours
Level #1	Events scheduled to play within	1
Level #2	Events scheduled to play within	3
Level #3	Events scheduled to play within	8
Level #4	Events scheduled to play within	24
Level #5	Events scheduled to play within	48

Data Transfer

The screenshot shows the 'Data Transfer Setting' dialog box with the 'Data Transfer' tab selected. The dialog has four tabs: 'Site Config', 'Data Transfer', 'Priority Levels', and 'Transfer Paths'. The 'Data Transfer' tab contains two text input fields. The first field is labeled 'Local Transfer Path' and contains the text 'F:\Transfer\'. The second field is labeled 'Network Transfer Path' and contains the text 'Spots1:\Transfer'. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Local Transfer Path

Enter the local transfer path. This is the local path you use for storing the incoming and outgoing packets, from where they are transferred to the destined place (if to be transmitted) or processed (if to be received).

Network Transfer Path

Enter the network transfer path. The network transfer path is used for letting other sites know where the packet has come from and also for sending acknowledgements.

How to configure WANcasting: System Mappings

To set the Mappings for the system, click Mappings under System on the Data Transfer Setup dialog.

A system mapping is typically a production only mapping that isn't tied to a station on the local system. Therefore, the system mapping won't interact with VoiceTRACs or Logs.

For each new mapping, click New and set the parameters according to the following:

Station number at Remote Site

Select the station number to which the selected station or site is to be mapped.

Remote Station/Site Name

Enter the station or site name to which the selected station or site is to be mapped.

Software Version at Remote Site

Select the version of PSi software running on the remote site.

Auto load spots Range

Enter the spot number range for autoloading. If the WANcasted spot number falls in this range, and the remote site is configured for autoloading, the spot is autoloaded.

Auto load Emergency Spots

Enter the emergency spot number range for autoloading. If the WANcasted emergency spot number falls in this range, and the remote site is configured for autoloading, the spot is autoloading.

Transfer Session Number

Select the STS session number you want to use.

Load Music and VoiceTRAC Log Changes

Check to enable the site/station to send music and VoiceTRAC log changes to the remote site. Uncheck to prevent the site/station from sending music and VoiceTRAC log changes to the remote site.

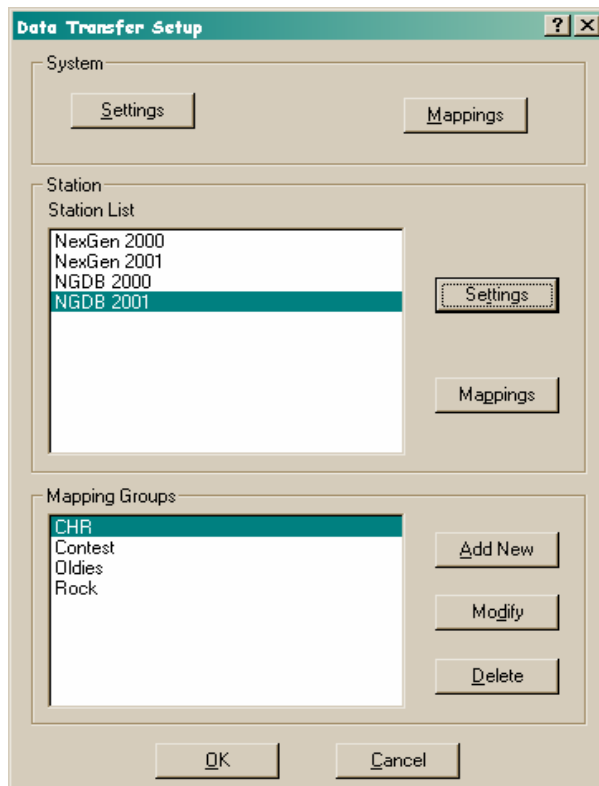
Remote Time-zone

Select the time zone for the remote site. This helps in establishing the priority of the data packet to be sent.

Remote Drive

Enter the path name on the remote where data packets are to be initially transferred. The remote site picks up the packet from this location and processes it.

How to configure WANcasting: Station Settings



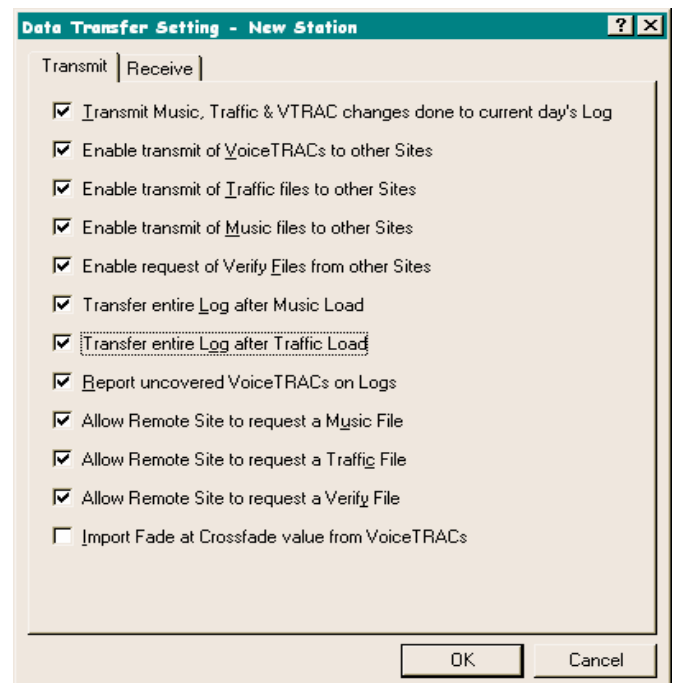
To configure WANcasting for specific stations, click Config from NexGen Digital™ and click Data Transfer. In the dialog, select the station from the Station List that you want to configure and click Settings under Station.

Review the following discussion and screen examples for information on how to set up the station to enable WANcasting. A previous section describes the process for configuring the system for WANcasting.

Transmit

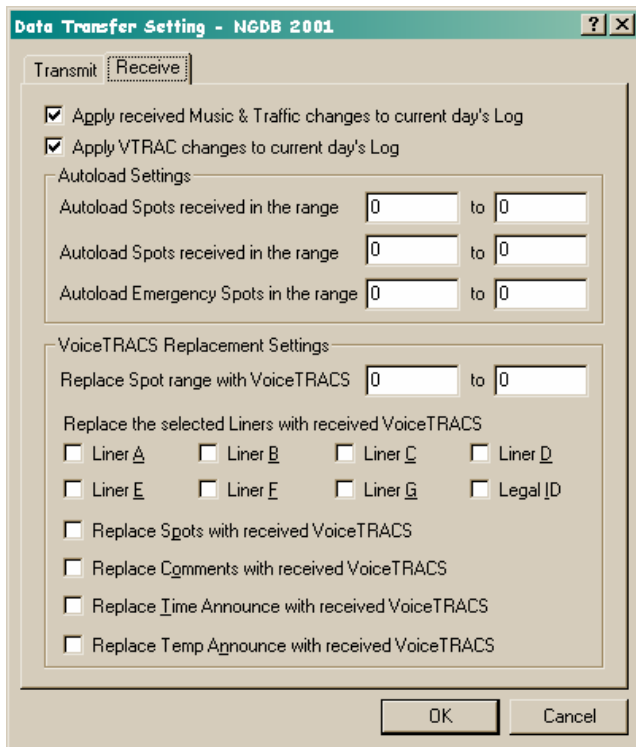
Use this dialog to set transmittal options, by station. Options include enabling of VoiceTRAC, traffic files, music files, and verification files transfer. You can choose to enable or disable the transmission of an entire log in place of music/traffic loads and to accept site requests for music, traffic, and verify files.

To enable an option, click in the adjacent checkbox to checkmark the option. Click again to clear the checkmark and disable the option.



Receive

Use this dialog to set receiving options, by station.



The dialog box is titled "Data Transfer Setting - NGDB 2001". It has two tabs: "Transmit" and "Receive", with "Receive" selected. Inside the "Receive" tab, there are two checked checkboxes: "Apply received Music & Traffic changes to current day's Log" and "Apply VTRAC changes to current day's Log". Below these is the "Autoload Settings" section, which contains three rows of input fields: "Autoload Spots received in the range" (0 to 0), "Autoload Spots received in the range" (0 to 0), and "Autoload Emergency Spots in the range" (0 to 0). Below that is the "VoiceTRACS Replacement Settings" section, which includes a "Replace Spot range with VoiceTRACS" (0 to 0) and a "Replace the selected Liners with received VoiceTRACS" section. This section has eight checkboxes for "Liner A" through "Liner H" and "Legal ID", all of which are unchecked. There are also four unchecked checkboxes for "Replace Spots with received VoiceTRACS", "Replace Comments with received VoiceTRACS", "Replace Time Announce with received VoiceTRACS", and "Replace Temp Announce with received VoiceTRACS". At the bottom of the dialog are "OK" and "Cancel" buttons.

Apply received Music & Traffic changes to current day's Log

Check this box if you wish to apply Music & Traffic changes received via Data Transfer, to the current day's log.

Apply VTRAC changes to current day's Log

Check this box if you wish to apply VTRAC changes received via Data Transfer, to the current day's Log.

Auto load Settings. . .

Set the number ranges for autoloading spots (and emergency spots).

VoiceTRAC Replacement Settings. . .

Set options for VoiceTRAC replacement here. This allows replacement of the event with the VoiceTRAC in the logs. You can also enable or disable options for enabling music, traffic, and VoiceTRAC changes in the current day's log. To enable an option, click in the adjacent checkbox to checkmark the option. Click again to clear the checkmark and disable the option.

How to Configure WANcasting: Station Mappings

To set the Mappings for each station, click Mappings within the Station area on the Data Transfer Setup dialog. For each new mapping, click New and set the parameters according to the following:

Station number at Remote Site and Remote Station/Site Name

Select the station number to which the selected station or site is to be mapped. Enter the station or site name to which the selected station or site is to be mapped.

Software Version at Remote Site

Select the version of PSi software running on the remote site.

Auto load Spots Range and Auto load Emergency Spots

Enter the spot number and emergency spot number range for autoloading. If the WANcasted spot number falls in this range, and the remote site is configured for autoloading, the spot is autoloading.

Transfer Session Number

Select the STS session number you want to use.

Load Music and VoiceTRAC Log Changes

Check to enable the site/station to send music and VoiceTRAC log changes to the remote site. Uncheck to prevent the site/station from sending music and VoiceTRAC log changes to the remote site.

Remote Time-Zone

Select the time zone for the remote site. This helps in establishing the priority of the data packet to be sent.

Remote Drive

Enter the path name on the remote where data packets are to be initially transferred. The remote site picks up the packet from this location and processes it.

Enabling Auto load on a CPU

To enable autoloading for WANcasting, from the Main Toolbar select Config and click CPU. Select the desired CPU and click Edit. In the CPU dialog, select Enable Auto load for WANcasting checkbox to enable autoloading, click again to disable Auto load.

CPU

CPU Name: ASERV001 NGDB 2001

Local Record Device: WPSI001.AUDIO01.ribo

Network Address: 10 . 60 . 114 . 217 Clear IP

Local Playback DRR

Station Pots IO

Ports

Station: 1 2 3 4 5 6 7 8

Miscellaneous Settings:

- ☐ CPU is an Emergency Control Room
- ☒ Enable Autoload for Wancasting
- ☒ Fire Liners and Legal IDs from Keyboard
- ☒ Fire Audio Server Events from Keyboard
- ☒ Fire Audio Server Events Using Keyboard Right/Left Arrows
- ☐ Ignore Play Optos During Relay Momentary
- ☒ Allow CPU to switch to a Hot Spare
- ☒ CPU is a Hot Spare

OK Cancel

WANcasting transmit

Once you have properly configured the system and stations for WANcasting, you can WANcast directly from Production, Logs, and VoiceTRAC recorder areas in NexGen Digital™.

Production

Click Transmit to transmit songs, spots, promos, segues, shows, fills, news, beds, bits, effects, and memos. From the pop-up Transmit dialog, select the sites where these events are to be transferred to and click OK.

Logs — From the Logs screen you can WANcast:

To transmit or request Music Load, click Music Load and select the desired option. If the station is configured to send the entire log in place of Music Load, then the entire log will be sent.

To transmit or request Traffic Load, click Traffic Load and select the desired option. If the station is configured to send the entire log in place of Traffic Load, then the entire log will be sent.

To request the Verification site, click Verify and select the desired option.

To re-transmit a VoiceTRAC, select the VoiceTRAC in the log and right-click. Select Transmit.

To re-transmit VoiceTRACs for a whole hour, click Transmit VoiceTRAC and select the hours for which VoiceTRACs need to be transmitted. To transmit VoiceTRAC deletions, select the VoiceTRAC in the log and press Delete. On deletion of a VoiceTRAC in the log, the Transmit dialog displays.

VoiceTRAC Recorder — When you save a VoiceTRAC or click Next, the Transmit dialog displays.

WANcasting receive

If the WANcasting autoloading feature is enabled:

The entire log, traffic load, music load, verification files, and VoiceTRAC additions and deletions are received and loaded without any additional user interaction.

Requests for log, traffic load, music load, and verification files are also entertained without any user interaction.

If a song is sent as a common song, and it falls in the common song number range in this site, then it is autoloading. If it falls outside the common song range, it becomes user-viewable data.

If a spot is an emergency spot or autoloading spot and it matches the range for these events, then it is autoloading. If it falls outside the range for these events, it becomes user-viewable data.

All songs and spots which do not qualify for autoloading are user-reviewable. To review these data, click Data Transfer from the main NexGen Digital™ screen (if there are events requiring user intervention, the Data Transfer button flashes).

All the reviewable data are listed in the Data Transfer screen.

To play a song or spot, select it and click Play.

To load songs or spots, select them from the list and click Load. If the spot number already exists, a dialog displays to give you the option of either overwriting the existing number or selecting a new spot number.

To delete events, select the event and click Delete. The event is marked as "to be deleted". To restore a "to be deleted" event, select the event and again click Delete. Data are irrevocably deleted once the Data Transfer screen is closed.

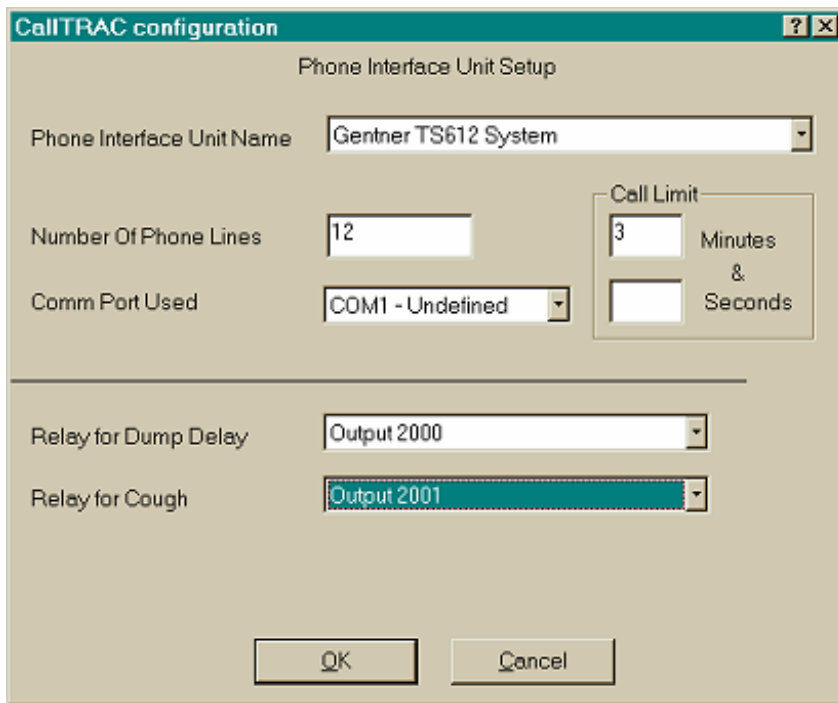
Click Print to print out the user-viewable data. Click Refresh to update the Data Transfer screen and display any new waiting items.

CallTRAC

Configuring CallTRAC

Use this dialog to specify the phone system interface and delay setups. The relays first need to be configured under config | output.

To view, edit, add, or delete the CallTRAC configuration, click CallTRAC on the Config screen button bar. The CallTRAC Configuration dialog shows the currently configured phone interface and relays.

The image shows a Windows-style dialog box titled "CallTRAC configuration". Inside the dialog, the title "Phone Interface Unit Setup" is centered. There are several input fields: "Phone Interface Unit Name" is a dropdown menu showing "Gentner TS612 System"; "Number Of Phone Lines" is a text box with "12"; "Comm Port Used" is a dropdown menu showing "COM1 - Undefined"; "Cell Limit" is a sub-dialog with two text boxes, the first containing "3" and the second empty, with labels "Minutes" and "Seconds" to the right; "Relay for Dump Delay" is a dropdown menu showing "Output 2000"; and "Relay for Cough" is a dropdown menu showing "Output 2001". At the bottom are "OK" and "Cancel" buttons.

Phone Interface Unit Setup

Phone Interface Unit Name - Select the phone interface unit name from the drop-down list. If no name appears, check the hardware defined under config > CPU > I/O.

Number of Phone Lines - Enter the number of phone lines installed.

COM Port Used - Select from the drop-down list the communication port used by this phone interface.

Call Limit - Enter the number of minutes and seconds for limiting the call length.

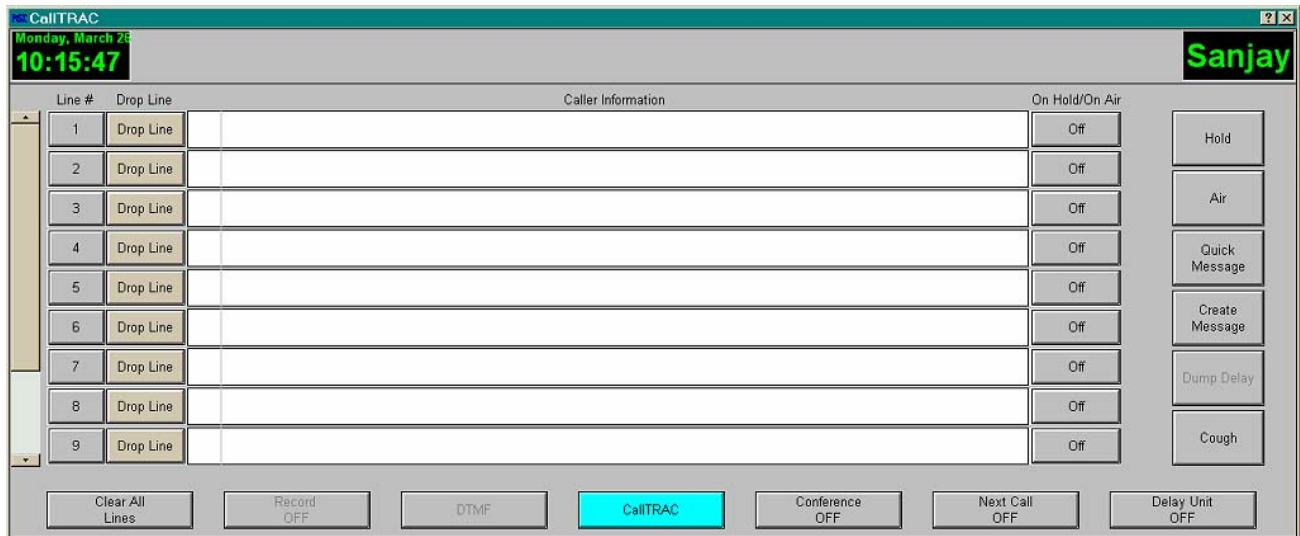
Relay Identification

Relay for Delay Dump - Select the relay name from the drop-down list. If no name appears, check your output definitions in config > output.

Relay for Cough - Select the relay name from the drop-down list. If no name appears, check your output definitions in config > output.

Using CallTRAC

Use this display to control on air phone conversations or interviews after configuring CallTRAC.



CallTRAC Activity Screen

Line # - Indicates which phone line a caller is calling in on.

Drop Line - Press this button to disconnect from the call.

Caller Information - Displays a text message indicating something about the caller or the caller's comments.

On Hold/On Air - Pressing these buttons will either remove the associated caller from on hold status or on air status depending upon their current status.

Hold - Places the current call on hold.

Air - Pressing this button will allow both participants in the phone conversation to be heard on the air.

Quick Message - Pressing this button will present a list box allowing you to select a previously prepared message. This message may then be sent to other users of CallTRAC such as the screener.

Create Message - An empty text box will appear when this button is pressed. You may then type any message to other users of CallTRAC.

Dump Delay - Use this button to eliminate the on air broadcast delay.

Cough - In the unlikely event of the unavoidable need to expectorate, this button will interrupt the on air broadcasting for as long as the button is held down. On air broadcasting will resume when the button is released.

Clear All Lines - This button will delete all lines of text under Caller Information.

Record Off - When this button is pressed, it will either open the Mini-Editor or stop recording by closing off the process of recording a phone call.

DTMF - This feature may not be included.

CallTRAC - This button identifies which machine the CallTRAC program is controlling.

Conference OFF - Cancels a conference call.

Next Call OFF - Cancels the next phone waiting in the queue.

Delay Unit OFF - This feature is probably being incorporated into the Dump Delay button.

Message

Use this dialog to create a set of stock messages to show in the Quick Messages function of CallTRAC.

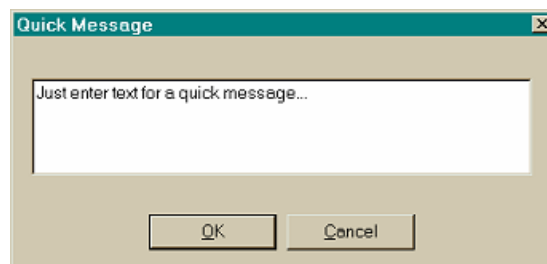
To view, edit, add, or delete Quick Messages, click Message on the Config screen button bar. The CallTRAC window dialog shows the current set of messages that can be selected from the CallTRAC Quick Message function.

To delete a message, select the message you want to delete and click Delete. Click YES on the warning message to delete the message or NO to exit without deleting the message.

To edit a message, select the message you want to edit and click Edit. Make the changes you want and click OK to save the changes and exit or Cancel to exit without saving changes.

To add a new message, click New. Using the following as a guideline, enter the new message and click OK to save the changes and exit or Cancel to exit without saving changes.

Quick Message entry window - Enter a message and click OK. The message displays in the CallTRAC window and is immediately available in the Quick Messages function.



Configuring PhoneTRAC

The PhoneTRAC utility allows a user to record an audio event remotely using the telephone.

The INPUT dialog box contains the following fields and controls:

- Name:** A text field containing "DR_10_Key1".
- CPU:** A dropdown menu with "PhoneTRAC" selected.
- Station:** A dropdown menu with "None" selected.
- Opto Events:** A dropdown menu with "PT1 1 Key" selected.
- Bit Position:** A numeric field with "1" entered.
- Type:** A group box containing radio buttons for: Undefined, ACU1, SeaLevel (selected), SS1, SS2, Wheatstone, Zaxcom, and AES18.
- Device:** A group box containing radio buttons for: 1 (selected), 2, 3, and 4.
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

Software Configuration

Initial configuration of the NexGen Digital™ software is accomplished by selecting the Config icon from the Main Toolbar.

From the Config screen, select the Input icon, define inputs for each of the ten keys on the telephone keypad in addition to Off Hook, On Hook and Connected.

Begin defining inputs by pressing the New icon from the Input screen. (see dialog boxes below).

After you've defined the inputs, your list of inputs should resemble the list shown below.

The Config window displays a toolbar with icons for Station, VStation, User, SMT, CPU, Input, Output, Source, Dest, Play, System, PSI, PhoneTRAC, Serial, and Port. Below the toolbar is a dropdown menu set to "CPU PhoneTRAC". The main area contains a table of defined inputs.

Name of Input	CPU	Type	Device	#	Station	Opto Event
DR_10_Key1	PhoneTRAC	SeaLevel	01	01	None Assigned	PT1 1 Key
DR_10_Key2	PhoneTRAC	SeaLevel	01	02	None Assigned	PT1 2 Key
DR_10_Key3	PhoneTRAC	SeaLevel	01	03	None Assigned	PT1 3 Key
DR_10_Key4	PhoneTRAC	SeaLevel	01	04	None Assigned	PT1 4 Key
DR_10_Key5	PhoneTRAC	SeaLevel	01	05	None Assigned	PT1 5 Key
DR_10_Key6	PhoneTRAC	SeaLevel	01	06	None Assigned	PT1 6 Key
DR_10_Key7	PhoneTRAC	SeaLevel	01	07	None Assigned	PT1 7 Key
DR_10_Key8	PhoneTRAC	SeaLevel	01	08	None Assigned	PT1 8 Key
DR_10_Key9	PhoneTRAC	SeaLevel	01	09	None Assigned	PT1 9 Key
DR_10_Key0	PhoneTRAC	SeaLevel	01	10	None Assigned	PT1 0 Key
DR_10_OFF_HOOK	PhoneTRAC	SeaLevel	01	14	None Assigned	PT1 Off Hook
DR_10_ON_HOOK	PhoneTRAC	SeaLevel	01	15	None Assigned	PT1 On Hook
DR_10_CONNECTED	PhoneTRAC	SeaLevel	01	16	None Assigned	PT1 Connected

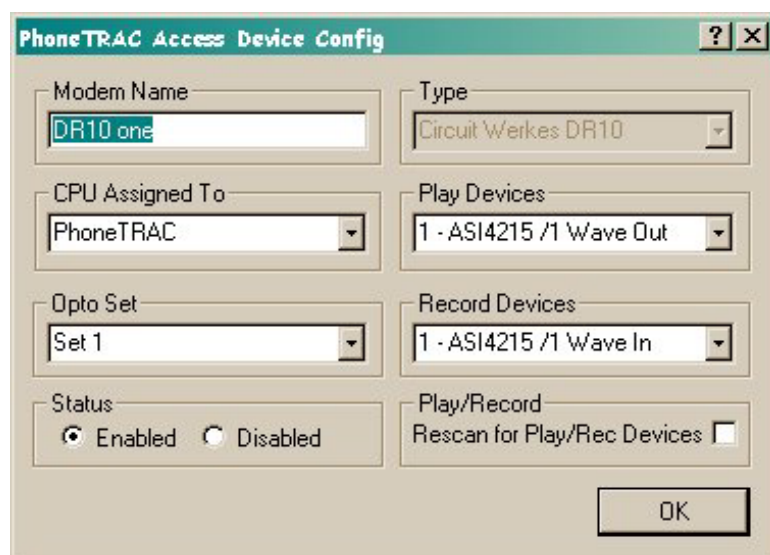
Once you have the Inputs defined, select the PhoneTRAC icon from the Config toolbar to access the PhoneTRAC Config dialog box.

PhoneTRAC Configuration

Currently the PhoneTRAC utility uses the Circuit Werkes DR-10 as the access device. The system will accommodate up to two DR-10 units per CPU. Each DR-10 requires exclusive access to a SeaLevel card (using separate cables).

Access Devices

Within the Access Devices area you will find three buttons labeled New, Edit and Delete. If this is the first time installing and configuring the PhoneTRAC utility, you'll need to press the New button to select the DR10 one access device.

The image shows a Windows-style dialog box titled "PhoneTRAC Access Device Config". It contains several fields and controls: "Modem Name" with a text box containing "DR10 one"; "Type" with a drop-down menu showing "Circuit Werkes DR10"; "CPU Assigned To" with a drop-down menu showing "PhoneTRAC"; "Play Devices" with a drop-down menu showing "1 - ASI4215 /1 Wave Out"; "Opto Set" with a drop-down menu showing "Set 1"; "Record Devices" with a drop-down menu showing "1 - ASI4215 /1 Wave In"; "Status" with two radio buttons, "Enabled" (selected) and "Disabled"; and "Play/Record Rescan for Play/Rec Devices" with an unchecked checkbox. An "OK" button is at the bottom right.

In the Access Devices area, type an identifying name for your device.

Select the CPU that will be running the PhoneTRAC utility in the CPU Assigned To area.

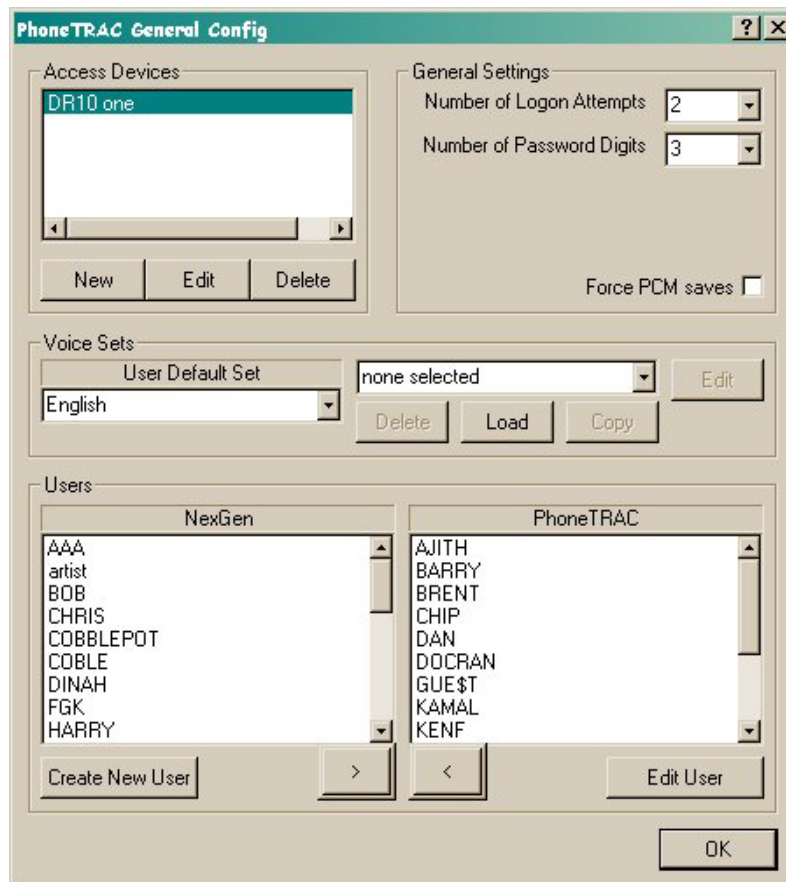
From the Type drop-down list, select the Circuit Werkes DR10 (currently, this is the only choice).

From the drop-down list in the OPTO Set area, select the appropriate Set. If you have only one DR10 unit installed, the proper set number will be Set 1. If you are installing two DR10 units and this is the second unit, the proper set number will be Set 2.

If this is the first time PhoneTRAC has been configured, the Status: Disabled and Play/Record items will be checked and grayed out. In order to select the Play and Record Devices, you'll need to first press OK, restart NexGen on the selected CPU and re-open the PhoneTRAC Config. Now that the system has detected your audio card(s) and scanned for Play/Rec Devices, you may select your Play Device and Record Device and select the Status: Enabled item.

General Settings

From the drop-down list, select the number of Logon attempts you wish to allow when someone is trying to access the PhoneTRAC utility. Up to five attempts may be allowed.



From the drop-down list, select the number of password digits you wish to require of each user. Minimum number of digits is three, maximum number is seven. Passwords must be numeric digits only.

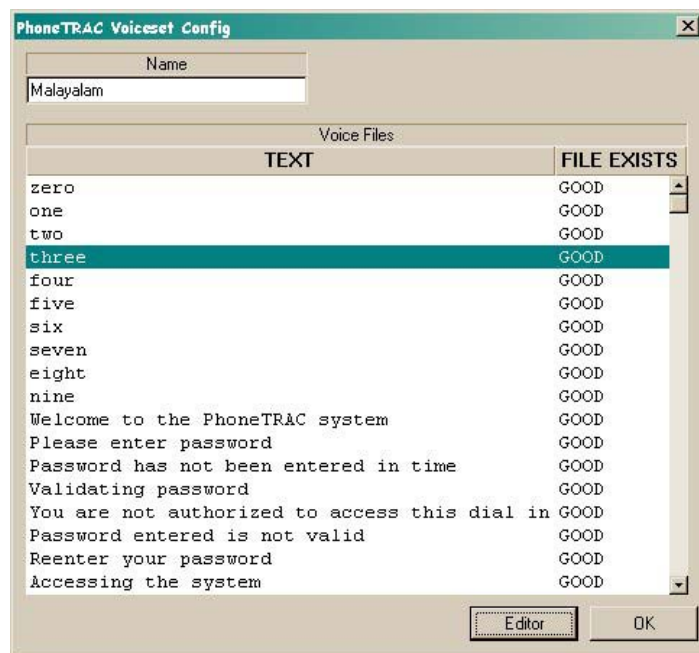
Note: Changing the Number of Password Digits will clear all currently set passwords.

Force PCM Saves – If your system operates in PCM, you'll want to check this option in order to save any recordings in PCM format instead of the PhoneTRAC native (default) format of MPEG.

Voice Sets

Currently, the only Voice Set available is English; however, the user can create their own voice set.

Creating a new Voice Set



To create a new Voice Set, navigate from the NexGen main toolbar to config | PhoneTRAC to the PhoneTRAC General Config dialog screen. In the center of the dialog screen you'll find the Voice Sets section.

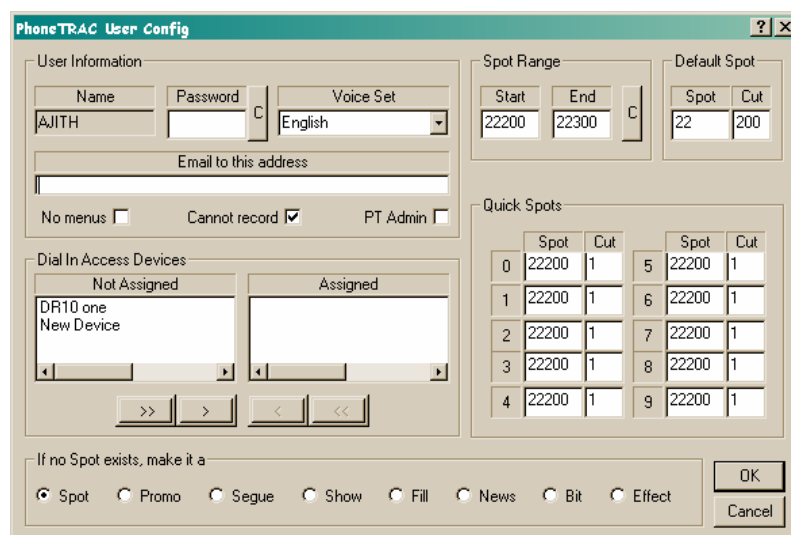
In the list on the left is the User Default Set. From the drop down list on the right, select a voice set and press the Copy button. A dialog box will appear requesting a new name for this Voice Set. After entering the new name, it will open the Voice Set Config screen.

Highlight the file you wish to edit and press the Editor button. The NexGen Mini Editor will open allowing you to enter whatever you wish. When you've finished editing the voice set, you'll return to the General Config screen where you can now select your new Voice Set from the drop down list on the right and load it for use or select it from the drop down list on the left to make it the default Voice Set.

Users

Adding a new User - you must login as Supervisor. After logging in as Supervisor, navigate to the PhoneTRAC General Config screen (config | PhoneTRAC).

Select the Create New User button and enter the name of the person to be added to the list of users. Once you press the OK button, the User Config screen will appear.



Configuring and Editing a User - User Information

The User Name is displayed and cannot be changed. The Password needs to be set using the number of digits designated in the PhoneTRAC Config dialog (shown above). The Supervisor can grant Administrative privileges to another User by checking the PT Admin box. If you want to prevent the user from recording (using PhoneTRAC) yet allow the user to playback recordings, check the 'cannot record' box. The User, regardless of privileges granted, has the discretion to play or not play the menus when calling in by checking or unchecking the No Menus box.



Spot Range

Enter the Start and End Spot number where you wish to save your recordings.

Default Spot

Enter the Spot and Cut number where you wish to save your recording by default. If you designate no spot or cut number, your spot will be saved with this spot and cut number.

Dial-In Access

Select the access device you wish this user to access the system with from the Not Assigned column on the left. If you only have one DR10 device installed on the CPU, only one unit will appear in the Not Assigned column. If more than one device is installed, select the device you wish to assign and press the . If you wish to assign all devices, press the  button.


Quick Spots

These are pre-selected spots. Using these spot numbers, you can simply call in using your access code and enter the number of the spot you wish to record.

If no Spot exists, make it a . . .

This option is a Supervisor setting. The user can only record one type of spot audio.

Note: When you call and record an audio event, you MUST press the save button in order to preserve your recording.

Press OK to exit and save your settings or press Cancel to exit without saving. Adding an existing NexGen user to the PhoneTRAC list of users - If you want to add a current NexGen user to the list of PhoneTRAC users, find their name in list of NexGen users, click on the user name to highlight it, and press the . The name can now be located in the PhoneTRAC list and edited by pressing the Edit User button. Press the OK button to exit.

PhoneTRAC Hardware Installation and Configuration

Components required for PhoneTRAC installation:

- 1 each DIO-32.PCI SeaLevel card
- 1 each SeaLevel I/O cable
- 1 each DR-10 Circuit Werkes box
- 1 each audio card with balanced play and record outputs.
- 1 each 37 connector patch cable
- 3 each 1N914 silicon switching diodes
- 3 each 2.7k Ohm ¼ watt resistors
- 1 each wiring diagram
- 1 each standard Telco line (as used with a PC modem)

Installation procedure:

Install the SeaLevel DIO-32.PCI card.

Install audio card if necessary.

Connect the audio card play and record to the DR-10 per the wiring diagram. Note that the DR-10 uses balanced audio.

Connect the I/O cable to the SeaLevel card.

Connect the DR-10 patch cable to the SeaLevel Input side of the I/O cable.

Connect the cable to the DR-10 per the wiring diagram. It is necessary to physically verify with a meter that the +5V output of the SeaLevel is used. Do not use the +12V output or damage may be incurred by the DR-10. Ensure proper polarity when installing the diodes.

Connect the DR-10 Telco Line jack to the Telco line.

Connect the power to the DR-10 last.

Tuning:***Start the Wizard Editor.***

Using a telephone, dial the Telco number for the DR-10.

When the DR-10 answers, enter the unlock code if necessary.

VR-1 Hybrid Null:

Mute the telephone handset.

Start the Editor recording from the DR-10.

Enter '#' then '5' on the telephone to start the DR-10 generating a test tone.

While watching the level in the Editor, adjust the 'VR-1 Hybrid Null' pot to the minimum level shown on the level meter.

Stop the recording.

Send Level Adjust:

Load an audio file into the Editor.

Begin playback of the file to the DR-10.

While listening to the handset, adjust the 'Send Level' pot in the direction that decreases volume.

Continue adjusting the pot until it stops.

Load PTVS_59.WAV file into the Editor.

Play the file while watching the yellow DTMF LED on the DR-10 board (located in the upper left corner of the board, next to the red power LED)

Adjust the pot slightly and re-play the audio. Continue this adjusting procedure until the yellow DTMF LED lights when the audio is played.

Adjust the pot slightly beyond the point at which the LED first illuminates.

Silencer Output Level:

Un-mute the handset.

Begin a new recording in the Editor.

While watching the level in the Editor, speak normally into the handset and adjust the 'Output Level' pot until the level occasionally peaks into the yellow and red zone of the meter.

Do not adjust this pot so that the level is generally at the rail or poor audio recording will result.

PhoneTRAC Command Listing

Main Menu Functionality

Play - Start playback of the selected spot from the beginning of the audio. If no spot has been selected yet, then this will be the users default spot. The spot file will be transferred from the storage server before playback begins.

Record - Begins recording over the selected spot. If no spot is selected, then the users default spot will be used. The only functional command at this point is 'Stop.'

Stop - Stops the currently playing audio, or stops recording. If playing audio back, then playback may be continued from the stopped location by 'Resume Playback.'

Resume Playback - Resumes playback of selected spot from where it was stopped. If the spot was not stopped, then playback will start at the beginning of the spot. This function only works for audio recorded in PhoneTRAC and spots that are PCM format.

Rewind - Rewind the currently selected spot back X amount.

Fast Forward - Fast forward the currently selected spot X amount.

Play Menu - Plays the current menu. This is either the main menu, the options menu, or the select spot menu.

Select Spot to Play/Record (Menu) - Enters into this sub menu.

Options Menu - Enters into this sub menu.

Options Sub Menu Functionality

If the user has selected play menus in setup, and the Options sub menu key is pressed, then the menu will play. Pressing any key but the 'Play Menu' key will perform the function and return to the 'Main' menu.

Decrease Volume

Decreases playback volume.

Increase Volume

Increases playback volume.

Reload Spot

Reloads the currently selected spot.

Save Spot

Saves the recorded spot. Note: This must be selected to transfer the recorded spot to the storage server.

Send Notification Email

Sends notification email to designated recipient. This is intended to notify someone on site that the user has recorded a spot.

Log Out

Logs user out of PhoneTRAC and disconnects line.

Select Spot Sub Menu Functionality

Select Quick Spot

Allows selection of a pre-defined spot.

Select Spot By Spot Number

Allows selection of spot by number, then cut.

Command TouchPad

Main Menu		
1 Play	2 Record	3 Stop
4 Rewind	5 Resume	6 Fast Forward
7 Select Spot Menu	8	9 Option Menu
	0 Repeat Menu	

Select Spot Menu		
1 Quick Spot	2 Select Spot	3
4	5	6
7	8	9
	0 Repeat Menu	

Options Menu		
1 Increase Volume	2	3 Reload Spot
4 Decrease Volume	5	6 Save Spot
7 Send E-mail	8	9 Log Out
	0 Repeat Menu	



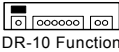
SealLevel Card

Function	Pin	Wire	Band	Alt. Wire	Alt. Band
+12 V	1	GREEN	YELLOW		
GROUND	2	BLACK			
PORT B7	3	PINK			
PORT B6	4	BROWN			
PORT B5	5	ORANGE			
PORT B4	6	VIOLET			
PORT B3	7	TAN			
PORT B2	8	WHITE	BLUE		
PORT B1	9	WHITE	BROWN	<--	
PORT B0	10	WHITE	ORANGE	<--	
PORT A7	11	WHITE	GREEN	<--	
PORT A6	12	WHITE	RED	<--	
PORT A5	13	WHITE	BLACK	<--	
PORT A4	14	WHITE	GREY	<--	
PORT A3	15	PINK	BLUE	<--	
PORT A2	16	PINK	ORANGE	<--	
PORT A1	17	PINK	GREEN	<--	
PORT A0	18	PINK	BROWN	<--	
+5V	19	PINK	GREY		
GROUND	20	WHITE			
GROUND	21	GREEN			
PORT B7	22	BLUE			
PORT B6	23	YELLOW			
PORT B5	24	GREY			
PORT B4	25	LT.PINK			
PORT B3	26	BLUE	WHITE		
PORT B2	27	BROWN	WHITE		
PORT B1	28	ORANGE	WHITE		
PORT B0	29	GREEN	WHITE		
PORT A7	30	PINK	WHITE		
PORT A6	31	BLACK	WHITE		
PORT A5	32	GREY	WHITE		
PORT A4	33	BLUE	RED		
PORT A3	34	ORANGE	RED		
PORT A2	35	GREEN	RED		
PORT A1	36	BROWN	RED		
PORT A0	37	GREY	RED		

NOTE: The SealLevel DIO-32.PCI manual, page 4 incorrectly states pins 1 and 19. Correct voltage for pins 1 and 19 are shown in the table above. VERIFY VOLTAGE BEFORE CONNECTION! USE ONLY THE +5V OUTPUT. **DO NOT** USE THE +12V OUTPUT.

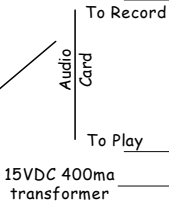
- 1) Diodes are 1N914, Resistors are 2.7k ½ watt.
- 2) DR-10 uses balanced audio.

Audio Card Note:
Tie left & right channels together for each Record and Play



DR-10 Function

to 18	Relay 1
<--	to 17
<--	Relay 2
<--	to 16
<--	Relay 3
<--	to 15
<--	Relay 4
<--	to 14
<--	Relay 5
<--	to 13
<--	Relay 6
<--	to 12
<--	Relay 7
<--	to 11
<--	Relay 8
<--	to 10
<--	NO 1 - Relay 9
<--	NO 2
<--	NC 1
<--	NC 2
<--	COM 1
<--	COM 2
<--	to 9
<--	NO 1 - Relay 10
<--	NO 2
<--	NC 1
<--	NC 2
<--	COM 1
<--	COM 2
<--	Aux (O/C) TTL
<--	Locked TTL
<--	GND
<--	CallEnd
<--	Disable
<--	GND
<--	Stat 1
<--	Stat 2
<--	Stat 3
<--	Stat 4
<--	GND
<--	GND
<--	Aux In (-)
<--	Aux In (+)
<--	Aud Out (-)
<--	Aud Out (+)
<--	GND
<--	Send (-)
<--	Send (+)
<--	Pwr
<--	Pwr



Wiring Diagram

Serial Port (Command)

This dialog box allows you to configure the Serial Port Commands. The Serial Port Command can be inserted into the log as a command or included in a macro that appears in the log. This allows you to control a peripheral device from your log such as turning on or switching a satellite channel.

Name

Enter a command or macro you wish to insert into the log. The device you wish to control must be configured under config/cpu/IO

A screenshot of the 'Serial Port Command' dialog box. It has a title bar with a close button. Inside, there are three text input fields: 'Name' containing 'Close', 'Serial Port Command' containing 'CD\r', and 'Comments' containing 'close tray and starts play automatically'. At the bottom are 'OK' and 'Cancel' buttons.

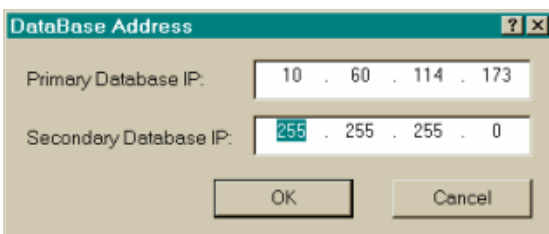
Serial Port Command

Enter the command string for the peripheral device. If you need to add a carriage return to the end of the command string, place an '\r' at the end, to add a new line to the command string, place an '\n' at the end, \xFF would be hex FF, \123 would be octal 123, to enter a tab \t, a vertical tab requires \v. See the documentation packaged with the peripheral device for additional commands that may be specific to the device.

Comments

This field is optional. You may enter explanatory comments here.

Database (db)

A screenshot of the 'DataBase Address' dialog box. It has a title bar with a question mark and a close button. Inside, there are two IP address input fields: 'Primary Database IP' with the value '10 . 60 . 114 . 173' and 'Secondary Database IP' with the value '255 . 255 . 255 . 0'. At the bottom are 'OK' and 'Cancel' buttons.

Primary Database IP - Enter the primary database's IP address.

Secondary Database IP - Enter the secondary database's IP address (only if using two databases).

Resources

We have made every effort to ensure your system is well mannered and reliable – the complexity of the NexGen Digital™ interactivity with so many uncontrollable variables, however, guarantees some hair-pulling at some point. Each system ships with complete manufacturer documentation: you should store this material in a safe place for reference. Because of the endless permutations possible for any given NexGen Digital™ system, we cannot duplicate (and keep current) manufacturer's documentation in this Guide.

NexGen List Server

The single best prospective action you can initiate is to become a member of our list server.

NexGen Listserv is a moderated discussion group that provides a forum for discussing issues related to NexGen Digital™. To subscribe to the NexGen Listserv, send an email to ListServ@ListServ.idbsu.edu and include in the body of the email only the following command:

Subscribe Wizard-L FirstName, LastName

You will receive a confirmation of your subscription by return email. To post a question or other issue, simply send your email to Wizard-L@listserv.boisestate.edu. Your email will be posted as soon as the moderator approves it. Anytime someone posts something you will receive a copy of the posting via email.

Audio Cards

NexGen Digital™ ships with a variety of AudioScience and other digital audio cards, depending on your system specifications. Refer to the included manufacturer's documentation for complete information on your specific cards.

Computers & Servers

NexGen Digital™ ships with a variety of servers and workstations, depending on your system specifications. These computers are carefully engineered and matched to provide you reliable and consistent performance on a standalone and networked configuration. Refer to the included manufacturer's documentation for complete information on each computer in your NexGen Digital™ system.

Archiving Audio Records

Archiving an audio record means storing the record in a state of inactivity – disabling the use of the record by the system. Archived items will not be selected for use in the log.

If the audio server runs into an archived event, it will skip the audio and go to the next event. The archived audio record is kept in this state for a user-defined period of time, after which it is erased permanently from the system.

During this archival period the record retains all of its properties and therefore can be restored to the active state at anytime. While the audio record is flagged as archived in the database, it maintains its assigned number and file identifier.

NexGen Digital™ Broadcast supports automatic and manual archival of audio records. You can configure archive and erase dates on a system level that is applied to all the audio records that are produced in the system.

NexGen Digital™ Broadcast also allow you to configure the archive and erase dates for individual audio records, thereby permitting selective archival and erasure of audio records.

Configuring System Archive/Erase Dates

To configure archive and erase dates at the system level, from NexGen Digital™ Broadcast click Config and click System. In the pop-up dialog, click Production defaults to access the configuration dialog for setting up system level archive and erase dates.

Production Defaults

You can separately configure erase and archive dates for Songs and Other audio types at the system level. This dialog also lets you configure the archive period for VoiceTRACs and phone calls.

Songs and Other Audio

End date – enter the date (mm/dd/yyyy) on which the audio record is to stop being selected for on-air availability.

Archive date – Enter the date (mm/dd/yyyy) on which the audio record is to be automatically archived.

Erase date – Enter the date (mm/dd/yyyy) on which the audio record is to be automatically erased.

VoiceTRAC

Log To Archive – Enter the number of days to keep the VoiceTRAC active before it is archived by the system.

Archive To Erase – Enter the number of days to keep the VoiceTRAC archived before it is erased by the system.

Configuring Individual Archive/Erase Dates

You can configure the archive and erase dates for each audio record individually. From NexGen Digital™ Broadcast, click Prod and then click on the type of audio you wish to view. Select the audio record for which you wish to configure the archive and erase dates. Click Edit to bring up the record's properties dialog.

Archive – Enter the date (mm/dd/yyyy) on which this specific audio record is to be automatically archived.

Erase – Enter the date (mm/dd/yyyy) on which this specific audio record is to be automatically erased.

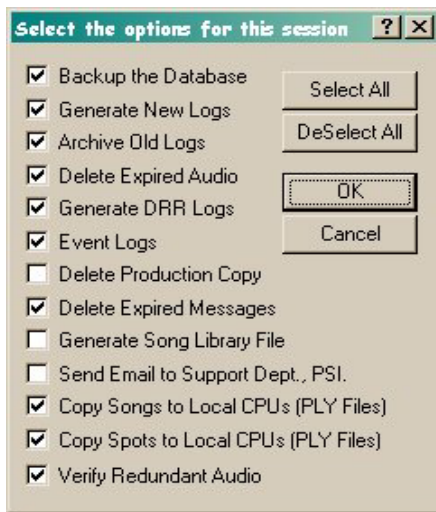
Automatic Archiving and Erasing

Once archive dates are configured for an audio record, either on a system level or on an individual basis, the system takes care of archiving or erasing these records on the date that they are to be archived or erased.

The overnight routine which is executed at the end of each day performs the automatic archiving and erasing of audio records.

The overnight routine goes through every audio record in the system and compares the archive and erase dates with the system dates. If it is past the archive date that's been set, then the audio record gets archived; if it is past the erase date that's been set, then the audio record gets erased.

The overnight routine is automatically executed at the end of each day by the system. You can also choose to execute the overnight routine manually and configure it to perform just the archive and erase task. By doing so, you can ensure at any time that all audio records in the system are in their proper state.



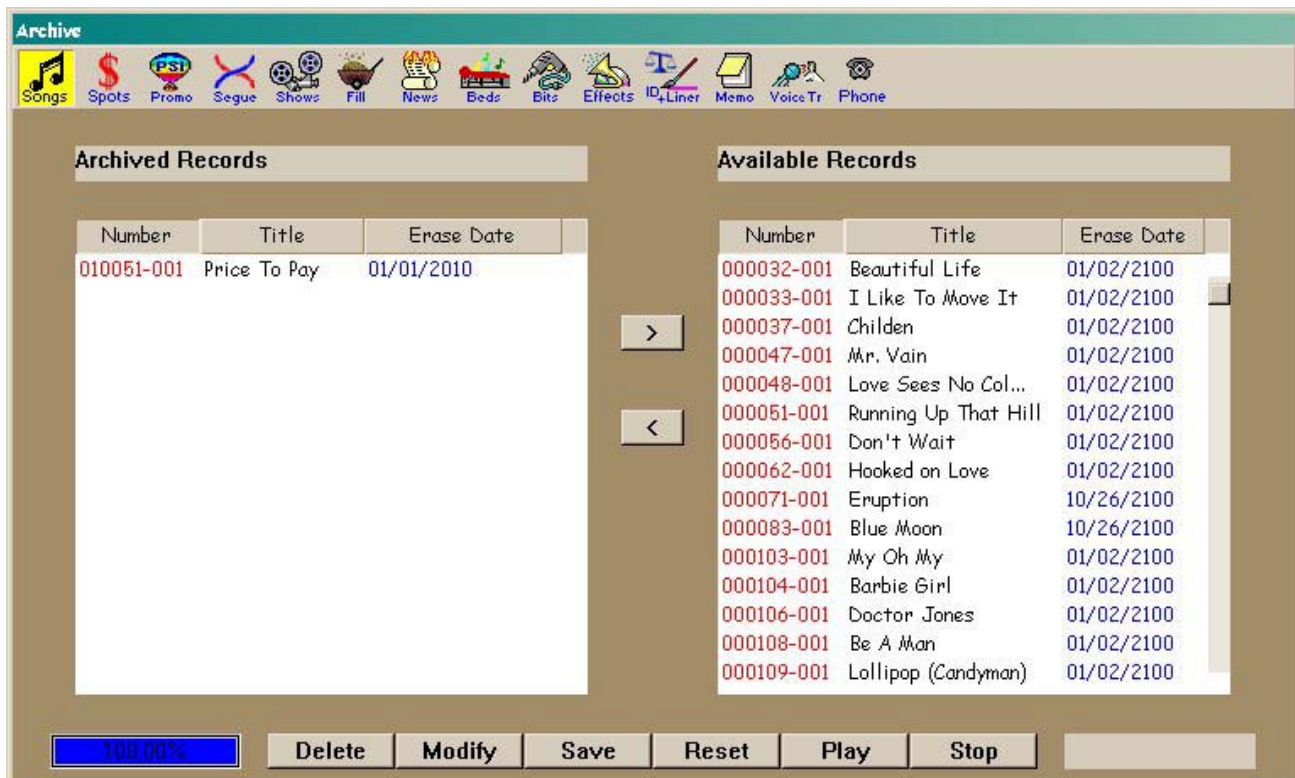
To execute the overnight routine manually, from NexGen Digital™ Broadcast click Utilities and then click Overnite. On the dialog box, uncheck all check boxes except Delete Expired Audio.

Click OK to save your changes and exit.

Delete Expired Audio – Check this box so that the overnight routine performs automatic archival and deletion of audio records.

Manual Archiving and Erasing

You can manually archive audio records prior to the configured archive date for the audio records. Once archived, you can also restore the record for the system before it is deleted. To perform these operations, access the Archive screen.



From NexGen Digital™ Broadcast click Archive to display the archive screen. Choose the audio type you wish to archive or reactivate.

Archived Records – Displays all archived audio records of the selected audio type.

Available Records – displays all available audio records of the selected audio type.

Play – Plays the selected audio record. You can select a record from either the Archived Records or the Available Records list boxes.

Stop – Stops playing the audio record if it is being played.

How to archive audio records manually

Select a record or multiple records from the Available Records list. Click < (the left angle bracket) to move your selections to the archived Records list. Click save to complete the archival process.

How to restore audio records manually

Select a record or multiple records from the Archived Records list. Click > (the right angle bracket) to move your selections to the Available Records list. Click Save to complete the restore process.

Additional Information

You can perform archival as well as restore actions concurrently.

Double-click on an audio record in either of the lists to get detailed information on the audio record.

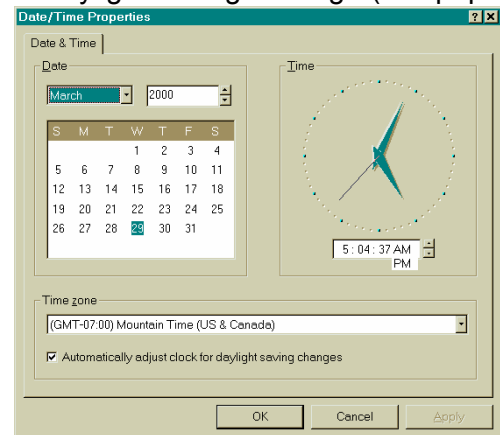
Click Reset to set both the lists to the way they were when the Archive screen was opened or when the Save button was last clicked.

Daylight Savings Time

The NexGen Digital™ products are able to handle daylight savings time shifts beginning with Version 1.1 for the fall shift and Version 1.2.6 for the spring shift. Special processing must be performed, however, for NexGen Digital™ to handle the shift properly.

If the operator circumvents the process, the shift will not be executed properly. The following explains the process that NexGen Digital™ goes through when it handles a daylight savings change (this paper focuses primarily on NT systems).

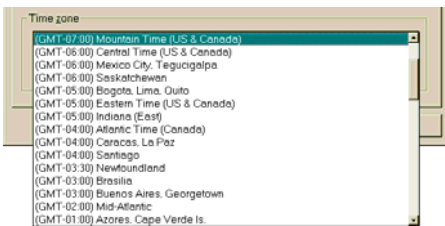
There are two ways to access the Date/Time dialog box. Double click your mouse cursor on the time display on the far right side of the Start bar, or alternatively, you can click on the Start button, move your cursor up to Settings until the menu appears, click on Control Panel, and double click on Date/Time to display the Date/Time dialog.



Daylight Savings Time in NexGen Digital™

Each time the log is generated, NexGen Digital™ looks at the system settings to see if daylight savings needs to be taken into consideration. Four factors are looked at to determine daylight savings:

First, will the system automatically adjust the time for daylight savings? This setting is found in the NT Windows Control Panel, in the Date/Time option. Select the Time Zone tab on the Date/Time Properties dialog. The *Automatically adjust clock for daylight savings* changes check box must be checked (the Win98 illustration shown here is used similarly). Although this check box should be checked on all NexGen Digital™ computers in your system, the most important machines requiring this option are the Audio Servers, Time Sync machine, Overnight machine, and the machine on which you generate your logs.



Second, are you in a time zone where daylight savings time is adjusted? Again, this setting is found in the NT Date/Time Properties dialog under the Time Zone tab. For Win98, you select time zones from a scrollable list on the main dialog (shown here). Make sure the proper time zone is selected for you. This should be consistent on all machines in your NexGen Digital™ network.

Third, what day of the year and time of the day should the adjustment take place? In many cases, this is not a fixed date, but rather the first or last Sunday of a given month. This factor is located in the same location as number two, above. For Win98, the day and time are automatically adjusted based on the time zone you selected: when the shift is automatically adjusted, you receive a notice on the screen that it occurred.

Fourth, how much—and in which direction—should the shift affect the current time? Incredibly, some time zones in the world shift their time by ½-hour. This factor is located in the same location as number two, above. For Win98, the shift is automatically adjusted based on the time zone you selected.

If all factors have been met while generating the log, NexGen Digital™ will insert an event in the log one hour prior to the shift. This entry will show up as "Daylight Savings Hour Start" in your log and control room.

Do not move, eject, or manually execute this event, otherwise the daylight savings shift will not work properly. When the audio server executes this event, it preps itself to handle the daylight savings shift once the current hour completes. If you restart the audio server between the time that this event executes, and the daylight savings hour, the automatic handling of daylight savings will not take place.

One second prior to the daylight savings shift (for example, at 1:59:59), the audio server completely halts for two seconds, allowing the system to perform the time shift. After this two-second halt, the audio server looks at all events currently playing and shifts their start times accordingly.

If the shift is forward, the subsequent hour will either be re-synched (if re-sync is on), or the times will be adjusted according to the new play times.

If the shift is backward, the daylight savings hour will, in essence, be two hours long. Therefore, it is important you overfill this hour when creating your logs.

If you have any further questions or concerns regarding the NexGen Digital™ handling of the Daylight Savings time shift, please present them to your Prophet Systems contact.

Database Server Stop and Start

Proper shutdown and startup of the NexGen Digital™ database server involves only a few steps, but must be implemented correctly to prevent system failure and loss of data. The following documentation details the exact procedure to ensure a well mannered stop and start of the database server.

Stopping the database server

From Windows: Right click on the database icon (on the status bar) and click Close.

Shut down Windows.

From Novell: Shutdown *or* Unload psi_db and Down

Starting the database server

From Windows: Create a shortcut to psi_db, set the working path, and on the command line use the following command format: **Format: psi_db ip [-sip]**

Where. . .ip is the IP address of this computer.

-s is the prefix for the second IP. This is followed by the IP address of the secondary database server (only used when there is a redundant database)

From Novell: execute the command wizard from the command line. If the wizard command is unavailable, use the following commands: **Format: psi_db ip [path] [-sip]**

Where. . .ip is the IP address of this computer.

path is the (optional) server path to the database files

-s is the prefix for the second IP. This is followed by the IP address of the secondary database server (only used when there is a redundant database).

PSi SS-621 Audio Switcher

The Prophet Systems Innovations SS-621 Audio Switcher is a 12 X 6 A/B switch. We designed this product to change audio feeds between an audio server and a dedicated hot spare for that audio server. The SS-621 is not limited, however, to passing only balanced audio (analog or digital)—you can also use it to route low-level control logic through the relay contacts.

Functional Description

You can switch between audio servers via front panel momentary switches, GPI signaling from up to four different locations, or two discrete serial ports:

Front panel operation is protected from accidental operation by the use of an “enable” switch. You set the operation to either require or not require simultaneous enable and selection closure.

The GPI inputs are internally referenced to allow a pull-to-ground activation. The GPI also provides open collector output conformation of current switch state (either A or B).

The serial ports are configurable to communication baud rates of 2400 to 38400 bps. The switcher is configurable for power-up default to the A, B, or last selected sources.

Physical Description

The PSi SS-621 Audio Switcher is a single-rack unit device with front panel selection switches and rear I/O connections. The audio connections are made via 18 five-pin quick-connect screw terminal blocks. GPI I/O is via a DB-15 connector and serial communication is via two DB-9 connectors.

Remote Control (J8)		Serial Status: DB-9 (Females)
pin numbers:		
DB-15 (Male)	Description	
1	GPI Input [Select Server 1, Studio 1]	#00c <cr>
2	GPI Input [Select Server 1, Studio 2]	#00d <cr>
3	GPI Input [Select Server 1, Studio 3]	#00e <cr>
4	GPI Input [Select Server 1, Studio 4]	#00f <cr>
5	GPI Input [Select Server 2, Studio 1]	#01g <cr>
6	GPI Input [Select Server 2, Studio 2]	#01h <cr>
7	GPI Input [Select Server 2, Studio 3]	#01i <cr>
8	GPI Input [Select Server 2, Studio 4]	#01j <cr>
9	Select Server 1, Front Panel (SW 2)	#00a <cr>
10	Select Server 2, Front Panel (SW 3)	#01b <cr>
11	GPI Status [Open Collector Server 1]	N/A
12	GPI Status [Open Collector Server 2]	N/A
13,14,15	Digital ground	N/A
Serial Protocol: (9600 8,N,1)		Serial status via a serial command
*00 <cr> Selects Server 1		#00 <cr>
*01 <cr> Selects Server 2		#01 <cr>
S <cr> Requests Status		See the “Serial Status” column in table above.

Dip Switch SW 5, Selection Grid

Digital inputs are pulled to Vcc (five volts). To select, pulse low for >200ms.

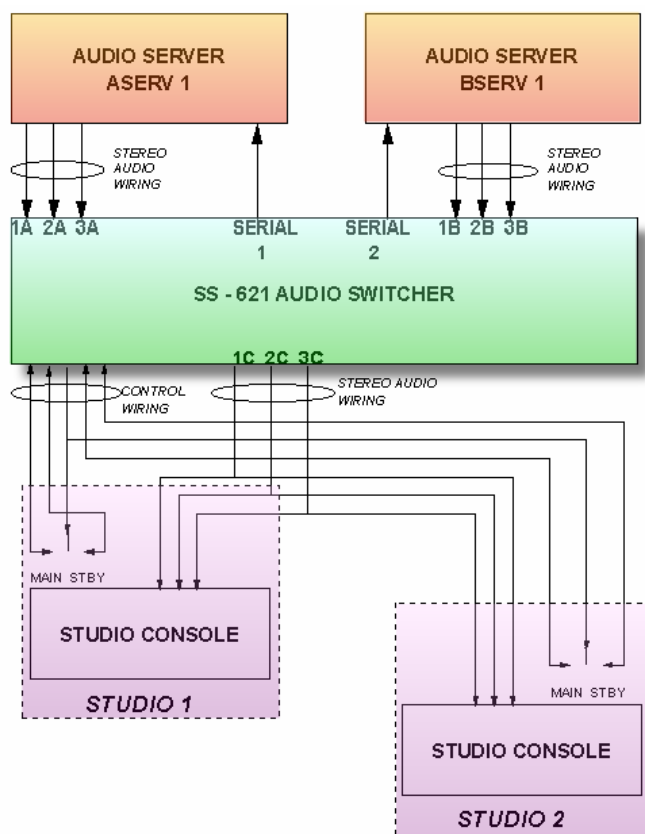
To enable the front panel ENABLE switch, remove and stow jumper JP1 (behind SW4).

Function	SW – 1	SW – 2	SW - 3
2400	ON	OFF	N/A
9600 (DEFAULT)	OFF	OFF	N/A
19200	ON	ON	N/A
38400	OFF	ON	N/A
Power-up (Default, Last selected Server)	N/A	N/A	OFF

The Switch Process

The SS-621 switcher works the same going from (using, for example, the diagram below) ASERV 1 to BSERV 1 as it does from BSERV 1 to ASERV 1. While the switch between locations takes less than 5 seconds—depending on the number of stations configured on that CPU—there will be silence coming out of the switch during that momentary delay.

When a fault occurs, this is the sequence involved:



An OPTO on the SS-621 is activated by an operator, silence sensor, or some other external source to initiate a switchover to the designated backup audio server.

The SS-621 switcher sends a signal to the audio server taking over (i.e., switching to ASERV 1).

The audio server ASERV 1 sends a message to the current audio server BSERV 1, telling it to stop being an audio server and to switch to stand-by mode.

The audio server ASERV 1 then copies the setting from the NexGen Digital™ Config|CPU|Dedicated HS to Config|CPU|Station for each station defined for that CPU under Dedicated HS. (Refer to NexGen Digital™ online Help for setup information.)

The audio server ASERV 1 then starts itself as the current audio server.

Fault Tolerance

Background

The NexGen Digital™ fault tolerance scheme encompasses seven optional modes of protection. Each mode is engineered to mesh seamlessly with any combination of other modes:

Audio storage server redundancy protects all your audio in case of server failure.

Database fault tolerance protects your data.

Local database redundancy/local audio.

Silence detection and hot swapping Audio Server capability ensure on-air continuity.

Emergency control room for live assist environments.

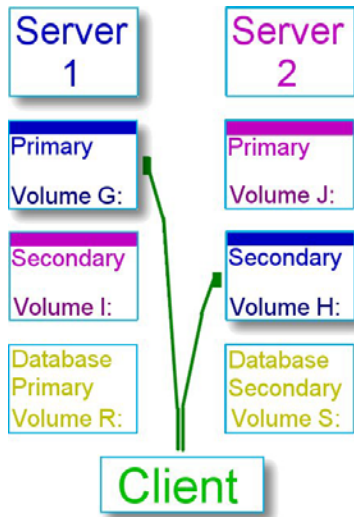
Premiere technical support.

Audio Storage Server

The critical protection scheme engineered by PSi first considers the most valuable resource of a customer: the audio library which constitutes the value of its product. The value of the PSi scheme is its continuity of playback, accessibility, re-synch ability, and integrity.

The audio contents on a file storage server are backed up to another file server (PSi recommends a Raid 5 configuration, but other configurations are available). PSi further defines special volumes on each server to accommodate a greater range of failure scenarios.

For this scheme, you must have a minimum of two file storage servers for a set of volumes and can have up to a maximum of ten sets of volumes.



As an example of how audio file storage server redundancy works, consider the illustration to the left. (Spot volumes are defined and operated similarly, either on the same servers or a different set of servers.)

In this simple example, Server 1 has two audio volumes, Volume G and Volume I. Volume G has been defined as a primary volume on Server 1 and Volume I as the backup volume for Server 2, Volume J. You set these definitions from within NexGen Digital™, via ConfigIPSi System.

Server 2 also has two audio volumes, Volume J and Volume H. Volume J has been defined as a primary volume on Server 2 and Volume H as the backup volume for Server 1, Volume G.

Under normal circumstances, new audio is written to a specific server's primary drive based on which server has the most available disk space. At such point that available space is roughly equal, audio would generally be written to the primary volumes alternatively. You are prevented from writing directly to the backup volumes.

As new songs are loaded onto Server 1 (via CD/Extractor, TMLoad, Wizard, or other means) and written to Volume G, that audio is also automatically backed-up to Volume H on Server 2. As new songs are loaded onto Server 2 and written to Volume J, that audio is also automatically backed-up to Volume I on Server 1.

Utilizing this crisscross method, a new audio event exists on two discrete file storage servers: on G and H or J and I. This is the minimum audio file server fault tolerant scheme, and up to ten sets of primary/secondary pairs can be defined depending on your need. Archived and deleted audio writes are handled similarly, with the original write going to a primary volume and the backup volume on another audio file storage server.

Audio Storage Server – Failure Scenario: What Happens

The client in the illustration above normally accesses Volume G for a particular audio file when it is not on the local hard disk. If Server 1 suddenly goes offline, the client automatically and immediately switches to Server 1's backup volume on Server 2, Volume H to retrieve the audio file. A flag is tripped in the NexGen Digital™ Status screen to warn of the server failure.

Since writes are no longer possible to Volume G on Server 1, they are loaded into Volume J on Server 2. When Server 1 returns online, you run the Mirror utility (accessed from the NexGen Digital™ Utilities area) to backup all changes made during the fault. New and changed audio on Volume J are backed up to Volume I and subsequent writes again alternate appropriately between the file storage servers. Since it is not possible for a user to write directly to a backup volume, there are no changes in Volume H to consider.

Additionally, the overnights have an option to “Validate Audio Mirroring”, this ensures that all audio is backed up to the secondary server.

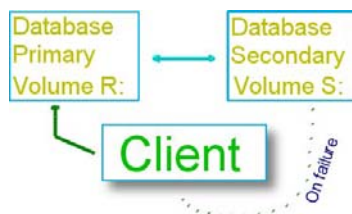
NexGen Digital™ Database Redundancy

The previous illustration shows an additional volume on each server: a primary volume on Server 1 and a secondary volume on Server 2. Database redundancy is designed so that it can be implemented on existing audio file servers or on unique servers at the user’s discretion.

Like the audio redundancy scheme, database protection relies on all writes and updates going to the primary database with the secondary database acting as the mirrored device. In case of the primary’s failure, however, there are some differences in how that failure is processed.

Failure scenario: what happens

If the primary database on Server 1 becomes inaccessible, the discovering client pings the secondary database on Server 2. If the secondary database responds, the client sends a packet to all clients instructing all clients to switch over to the secondary database. Subsequent reads and writes are directed to the secondary volume. A flag is triggered in the NexGen Digital™ Status screen.



When the original primary database volume on Server 1 is fixed and rebooted, it is reconstructed from the new primary on Server 2 and then assumes its new role as the secondary database.

During this failure and reconstruction process, the primary database icon in the status screen first goes red, turns yellow as it is being reconstructed, then turns green when it has been fully reconstructed and verified.

Local database redundancy

Every audio server maintains a local database. This local database includes critical information for the audio server station(s), including up to three days of logs.

The audio server build process, executed in the overnight routines, moves a copy of all audio in the logs to the local C:\ or D:\ AS_RUN directory. All current log audio event files are written to the local hard drive.

In a normally functioning system, NexGen Digital™ looks first to the local drive for requested audio files, then to the primary volume, and then to its backup volume.

The local database, exclusive of the overnight-produced logs and audio, is updated in real-time. This real-time update allows local access of the production data.

During normal operation, the audio files are accessed from the local drive. Only changes in the play list must be retrieved over the network. Besides the fault tolerant benefits, this process minimizes network traffic during the most critical times.

Failure Scenario: What Happens

The PLAY routine invoked with NexGen Digital™ executes audio by first searching the local drive, then the primary volume of the audio file storage server, then the secondary (backup) volume.

If the audio file storage servers and database servers are all unavailable, NexGen Digital™ switches to running locally. A warning note on the NexGen Digital™ title bar tells you that the local drive and local database are being used exclusively for running the station, using the logs loaded from the overnights.

In this manner, an audio server can run on its own using the preloaded logs: the audio server becomes a standalone unit.

Additionally, if the audio is playing locally when the search is downed the audio experiences no interruption.

Silence detection / Hot swap

Hot swapping is the ability to remove and replace a failed part with a good part without requiring system or hardware shutdown or other exceptional measures. Hot spare CPUs are set up to receive records of a failed station and all associated data files and to go online almost immediately to assume that station's identity. There are three hot sparing models that can be incorporated into the NexGen Digital™ system:

Router based pool model – best for a one to one hot spare ration.

Dedicated router based pool model – each spare is assigned a specific station to backup, replaces primary audio server for that station.

Dedicated Router-less model – All audio routing and system control are outside of NexGen.

Additionally, these three hardware components are required to implement this feature:

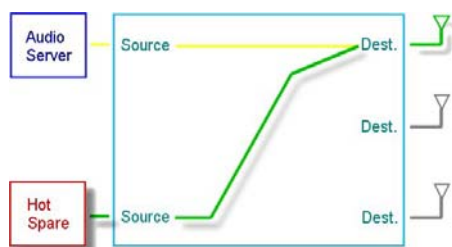
“Hot spare” CPU(s).

Probel or SAS router.

Station silence detection.

Failure Scenario: What Happens

When a station's silence detector trips, the station's records and all associated data are copied from storage to the next available hot spare CPU.



The failed station's router destination is given over to the hot spare CPU, which launches and continues to execute the station's log.

When the repaired CPU is ready to recover the station, you run a utility to switch the station back to the repaired CPU from the hot spare.

Emergency Control Room

For those environments using Live Assist on a regular basis, a control room fault tolerance is available. You designate a control room as an emergency control room and assign it to operate a given station. All logs and audio are copied to this workstation for the given station (audio server).

If access to the file server(s) is lost, you fire an OPTO via a button and the emergency control room becomes the audio server for that station.

The emergency control room runs completely in standalone mode using the logs and audio previously loaded into its local database.

To reattach to the original file server, NexGen Digital™ must be restarted in the control room workstation.

Technical Support

Because the NexGen Digital™ fault tolerance program is standardized, PSi can inventory the exact equipment, talent, and hardware necessary to get any NexGen Digital™ system operational, regardless of location and cause.

While it is hoped this resource is never required, if there is a need, there is an appropriate response at this level.

Recording DRR

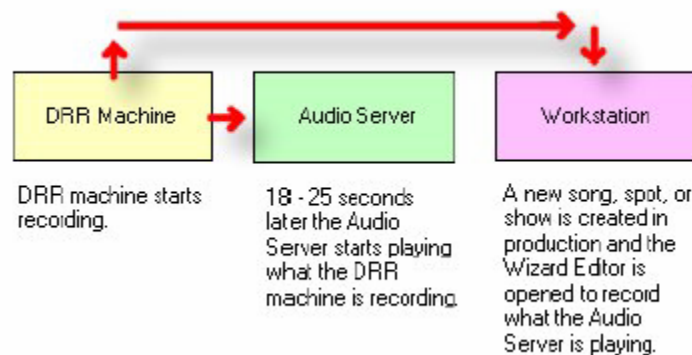
Brief

Depending on the sample rate, DRR (Digital Reel to Reel) recordings are playable 18 to 25 seconds after the recording has begun. You can play a DRR recording by scheduling the audio file to be played the appropriate number of seconds after it is scheduled to begin recording.

To record highlights from the recording DRR, the operator must open the Wizard Editor in the Production window and record the DRR as it is playing. When a highlight segment is determined, the operator stops the recording and cuts that segment so it can be used in the future.

How to Create a DRR Log File

Creating a DRR log file is very important because this file is what the Digital Reel to Reel Controller uses to record future events. After the DRR log is complete to your satisfaction, click Create DRR to create the DRR log file and close the DRR window.



Recording DRR highlights

To record highlights or selected audio segments from the recording DRR, the operator must open the Wizard Editor in the Production window at a workstation other than the audio server or DRR machine. When the DRR file that is being recorded starts playing, the operator can record the audio and listen for highlights. When a highlight segment is determined, the operator will need to stop the recording and cut that segment so it can be used in the future.

DRR process

DRR recordings are playable 18 to 25 seconds after the recording has begun, depending on the sample rate (refer to the table shown here).

You play a DRR recording by scheduling the audio file to be played 18 to 25 seconds after it is scheduled to begin recording.

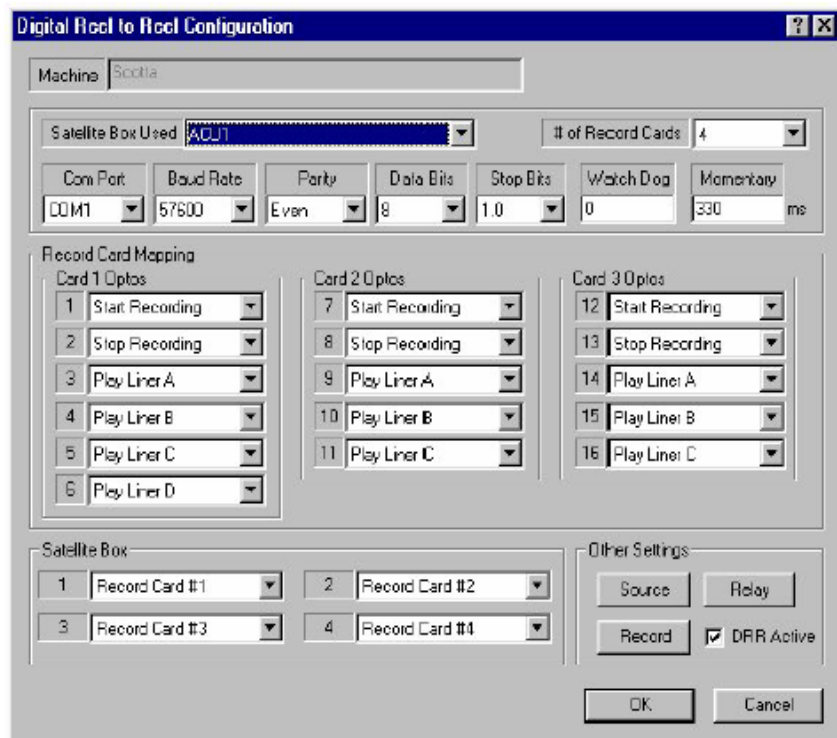
Play-while-recording delay		
Sample Rate	Compression Rate	Delay in Seconds
48000	24.0	25
48000	16.0	25
48000	13.7	25
48000	12.0	20
48000	9.6	20
48000	8.0	20
48000	6.9	20
48000	6.0	20
48000	4.8	20
44100	22.1	25
44100	14.7	25
44100	12.6	25
44100	11.0	25
44100	8.8	25
44100	7.4	25
44100	6.3	25
44100	5.5	20
32000	16.0	25
32000	10.7	25
32000	9.1	25
32000	8.0	25
32000	6.4	20
32000	5.3	18

Note that DRR recordings greater than one hour should be broken into one hour blocks. This is because the VID file—the file that represents the wave image—has a size limit and will only display up to about 3.5 hours.

Simultaneous Recording on Four Cards

DRR is now capable of recording on four cards at the same time.

Select the number of cards to record on in the Digital Reel to Reel Configuration dialog (shown here) by changing the number in the # of Record Cards combo box.



Each card that will be recorded on must also have the OPTOs configured in the Record Card Mapping section of the DRR configuration.

The record card must also be mapped to a satellite box in the Satellite Box section.

It is important for you to note that both OPTO Records and Timed Records can be used on cards one through three. You can use the fourth card, however, only for Timed Records.

DRR troubleshooting

DRR Configuration Errors

The following are configuration errors only. These are not errors in the program.

Problem: DRR Log is displaying an incorrect DRR number.

Possible Solution #1: The satellite boxes are not being mapped one to one to the record cards. Given the following setup:

Satellite box 1 Record card 1

Satellite box 2 Record card 3

Satellite box 3 Record card 2

Satellite box 4 Record card 4

- A source that is on device one will display in the DRR Log as being on DRR number 1.
- A source that is on device two will display in the DRR Log as being on DRR number 3.
- A source that is on device three will display in the DRR Log as being on DRR number 2.
- A source that is on device four will display in the DRR Log as being on DRR number 4.

This set up is actually acceptable; however, it is a little confusing to work with.

Possible Solution #2: The satellite box in the Digital Reel to Reel Configuration dialog is not of the same type as the source. If the satellite box is configured as type “ACU-1” and the source is type “Sea Level”, the DRR Log display and the DRR Log File will be incorrect.

Problem: DRR Log events are not showing up in the “Digital Reel to Reel Controller”.

Possible Solution: A source is pointing to a device number for which there is no satellite box. For example, creating a source that points to device four when there are only two satellite boxes will create this problem. To prevent this problem, never assign a source to a device number that is greater than the number of satellite boxes defined.

DRR Log File

The DRR Log File is used to tell the Digital Reel to Reel Controller to record timed events, record based on OPTOs, turn sources on and off, relay on, relay off, relay momentary, and re-sync. The Digital Reel to Reel Controller reads the DRR Log File for the next task to perform and changes the hyphen (-) in front of each line to a caret symbol (^) after that line has been processed.

Path and Filename of the DRR Log File

The path and filename of the DRR Log File is made up of the following:

OPERATING PATH\“DRR”\CPU NUMBER\MMDDYY.DRR

Where: OPERATING PATH = R:\NexGen\

CPU NUMBER = 1

DATE = Jan. 1, 2000

The path and filename of the DRR Log File will be: R:\NEXGEN\DRR\001\01-01-00.DRR

You edit the “Operating Path” in NexGen Digital™ from the System area in Config.

Locate the CPU number of the DRR machine on the bottom left corner of the main NexGen Digital™ screen.

Translating the DRR Log File

The following is a list and explanation of the file formats for each DRR event type.

Source On

-XU,SSSSSSSS,--,--,--,NN

Where: X = Device Number

S = Start time in milliseconds from midnight

N = Source Number

Source Off

-XD,SSSSSSSS,--,--,--,NN

Where: X = Device Number

S = Start time in milliseconds from midnight

N = Source Number

OPTO Record

Command 'Q' turns source on and 'O' assumes it is already on.

```
-XO,LLLLL,TTTTT,BB,EE,NN,IIII,dddd,A,M,D,RRRRR,FFFFFFFFFFFFFFFFFFFFF
FFFFFFFFF
```

or

```
-XQ,LLLLL,TTTTT,BB,EE,NN,IIII,dddd,A,M,D,RRRRR,FFFFFFFFFFFFFFFFFFFFF
FFFFFFFFF
```

Where: X = Device Number

S = Start time in milliseconds from midnight

T = End Time in seconds from midnight

L = Length of recording in milliseconds

B = Begin OPTO number

E = End OPTO number

N = Source Number

I = auto start level limit

d = auto start delay limit

A = auto / manual recording mode

M = stereo / mono recording mode

D = digital / analog recording (Not currently used)

R = Recording sample rate

F = Filename

OPTO records also have extra data starting at position 80 (0 based). Position 80 will have an 'X' in it.

Positions 81 through 87 will contain the record number of the audio file. Position 130 will have an 'E' and positions 232 through 238 will also contain the record number of the audio file.

Relay

-XR,SSSSSSSS,VVV,NN

Where: X = Device Number

S = Start time in milliseconds from midnight

V = "OFF", "ON", or "MOM" (Momentary)

N = Source Number

Re-sync

-XS,SSSSSSSS

Where: X = Device Number

S = Start time in milliseconds from midnight

Timed Record

Command 'Y' turns source on and 'T' assumes it is already on.

-XT,SSSSSSSS,LLLLLLLL,NN,IIII,dddd,A,M,D,RRRRR,FFFFFFFFFFFFFFFFFFFF

FFFFFFFFFFFF or -XY,SSSSSSSS,LLLLLLLL,NN,IIII,dddd,A,M,D,RRRRR,FFFFFFFFFFFFFFFFFFFF

FFFFFFFFFFFF

Where: X = Device Number

S = Start time in milliseconds from midnight

L = Length of recording in milliseconds

N = Source Number

I = auto start level limit

d = auto start delay limit

A = auto / manual recording mode

M = stereo / mono recording mode

D = digital / analog recording (Not currently used)

R = Recording sample rate

F = Filename

Using DRR

To access the DRR Log window, click Logs from the NexGen Digital™ main window. In the Logs window, click DRR. The DRR Log window tool bar shows the following options: **Logs, Clocks, Copy Hour, Delete Hour, Delete Log, Generate Log, and Print Log.**

A clock is similar to a template that you use to build the DRR log. There is a clock for every day of the week for each DRR machine. A clock can be very basic and contain only Top of Hours or a clock can contain several DRR events that will be used to create a new DRR log.

To generate a new log, click Generate Log. On the dialog box that opens, select the date of the log to generate and the clock ("template") to use to generate the log.

To add events to a Clock or Log, double-click anywhere in the list box in the DRR window. A dialog pops up and lists eight event types that can be added to the DRR log. These event types are: OPTO Record, Timed Record, Relay Momentary, Relay Off, Relay On, Source Off, and Source On.

To add an event to the log, drag and drop the desired event from the dialog box to the DRR log list box. Depending on the event selected, a series of dialogs open for you to fill in additional, required event parameters.

To copy hours, click Copy Hour. On the dialog box that opens, select the DRR machine and date to copy from and select the DRR machine and date to copy to. Select the hours to copy from and the hours to copy to. Finally, select the type of copying to perform and click OK.

To delete a log, select from the drop-down lists the machine and date of the log to delete and click Delete Log.

To print a log or clock, load the clock or log and click Print.

Rotations

Rotations are automatically generated or user-defined collections of unique audio events or cuts (excluding songs), generally production events with special properties and uses. NexGen Digital™ treats rotations essentially the same as other audio events: rotations can replace a single audio event and they can be dragged and dropped into logs, the Active Control Room Log, the button bar, and so forth. There are some distinctions and rules involving rotations, though, that govern their appropriate use.

Background

The NexGen Digital™ rotation algorithm employs two primary rules for defining how rotations are processed:

Use only valid audio events for percentage calculations (for example, the audio event and its various cuts must have a valid date, valid day-parting, not be archived, and so forth).

Produce audio events and audio event cuts in such a manner that the individual event or cut does not repeat too often while adhering to the specified percentage.

NexGen Digital™ employs two types of rotations:

System rotations, which are automatically generated from one audio event and its associated cuts.

User-defined rotations, which you explicitly set up in Production.

System rotations

A system rotation automatically generates to fill a special purpose need. It contains all of the cuts for an audio event, with each cut having an equal chance of selection. For example, if an audio event has four cuts, each cut is assigned a percentage play value of 25%. You can manually change those percentages, but if a new cut is added the percentages default to equal amounts and overwrite your manual changes.

For example:

If you manually change the play percentage of the four cuts for an audio event to 30%, 30%, 30%, and 10% and then create a fifth cut of the audio event, the system rotation automatically readjusts each cut play percentage to 20% (five cuts, each playing 20% of the time).

The system rotation automatically updates whenever you create a new cut or make changes to the audio event. This update resets the counters so that the new cut has as equal a chance of playing as the older cuts. You cannot remove audio event cuts directly from a system rotation; instead, delete the cut using the NexGen Digital™ Production area.

The system rotation number is the same as that of the audio event. The title of the rotation is the same as the last cut added.

The system rotation plays a significant role in the NexGen Digital™ environment as it speeds up the retrieval of audio cuts with just one database access rather than an index search for all cuts of a specified event (there is a maximum of 150 cuts for each audio event). This tactic greatly increases the performance of the production system, the Audio Server, and most other NexGen Digital™ subsystems.

User-Defined Rotations

You create a user-defined rotation from within the NexGen Digital™ Production area. It can contain cuts for one particular audio event or a collection of cuts for different audio events.

You can specify play percentages for each cut in the rotation to suit your needs; these percentages can be modified by adding or removing cuts or resetting the count to restart the percentage changes.

Because system rotations use the audio event's number for identification, a user-defined rotation number is uniquely defined upon creation.

Router Configuration

There are currently three PSi-supported routers available with the NexGen Digital™ Broadcast system.

Normally (and preferably) the SAS-64000, SAS-16000, and ProBel System3 are set up and configured in PSi manufacturing prior to shipping the entire system; in some cases you may need, however, to set up a new router at a later time or need to zero-base the existing configuration and set it up from scratch. This section describes the process you use to configure your router and set it up to run properly with NexGen Digital™ Broadcast.

Background

Under normal circumstances, router configuration and setup is done at PSi manufacturing prior to the system being shipped. Because this is essentially a manufacturing process, end-user configuration requires a few minor concessions, as noted further on.

The following instructions walk you through the setup and configuration of a router and are appropriate for any of the three routers we currently support (SAS-64000, SAS-16000, and ProBel System3). With the exception of wiring (as noted in the following table) and number of sources and destinations, these instructions apply to all three routers.

Step One: User Serial Interface Pin-Outs

The user serial interface (USI) allows external serial control of the router; in this case, by NexGen Digital™ Broadcast. This table shows the wiring scheme for each router. Note that the ProBel is custom configurable in this respect and you will need to get pin assignments from the manufacturer. Before continuing with software configuration of the router, you must make sure that all wiring and pin-out assignments are correct. All SAS ports default to 9600 baud, 8, n, 1. Note: make sure you have the most current router BIOS installed.

Router	Port A			Port B		
	Tx	Rx	Gnd	Tx	Rx	Gnd
SAS-16000 (DB-9)	Pin 2	Pin 3	Pin 5			
SAS-64000 (J-25)	Pin C7	Pin B7	Pin A7	Pin C8	Pin B8	Pin A8
ProBel System3	(Please refer to manufacturer's documentation)					

Step Two: Modify WIZARD.INI

This next step is done to write a [ROUTER] section to the WIZARD.INI file, which you will then need to open and manually modify. For this step, NexGen Digital™ Broadcast must not be running.

Locate the file ROUTER.EXE on the hard disk using File Explorer or File Find. Double-click ROUTER.EXE; a “ROUTER.DAT” error message displays.

Click NO on the error message dialog; the NexGen Router Controller System screen displays.

Click X in the upper right corner to exit the NexGen Router Controller System screen. Do not make any changes in the NexGen Router Controller System screen at this time—this action simply writes the necessary [ROUTER] section in the WIZARD.INI file.

Using NOTEPAD or your favorite ASCII editor (do not use Word or other non-ASCII editor unless you're familiar with saving files to ASCII text format!), locate and open WIZARD.INI and scroll to the [ROUTER] section. That section should look similar to the following:

[Router]

X_pos=35

Y_pos=19

Width=750

Height=530

Port=COM1 [change COM port as necessary]

Baud=19200 [change baud rate as necessary]

Bits=8 [change bits as necessary]

Parity=None [change parity as necessary]

StopBits=1 [change stop bits as necessary]

BuildAll=False

BuildPorts=

RouterType=SAS16000 [change as necessary]

SourcePorts=0 [change as necessary]

DestinationPorts=0 [change as necessary]

Edit RouterType, SourcePorts, and DestinationPorts to reflect the router you are configuring. For example, an SAS-16000 configuration might look like this:

RouterType=SAS16000 [or, SAS64000 or ProBel]

SourcePorts=32 [total number of source ports]

DestinationPorts=32 [total number of destination ports]

Save WIZARD.INI and exit your ASCII text editor.

Step Three: Run ROUTER.EXE

This step writes the source and destination names and pairings into the NexGen Digital™ Broadcast database.

Start ROUTER again. The NexGen Router Controller System screen displays.

In the NexGen Router Controller System menu bar, click Settings and click to uncheck Local Port Names.

In the NexGen Router Controller System menu bar, click Transfer and click Continuous Build. A Build dialog displays. On the dialog, click All then click OK.



Click Status. The Status screen displays, showing the router's input and output ports as they are being determined. A progress bar along the bottom of the screen will disappear when all the ports have been "built".

Only after the progress bar has disappeared (indicating that all ports have been built), from the menu bar click File|Database|Save as Local Names and click OK.

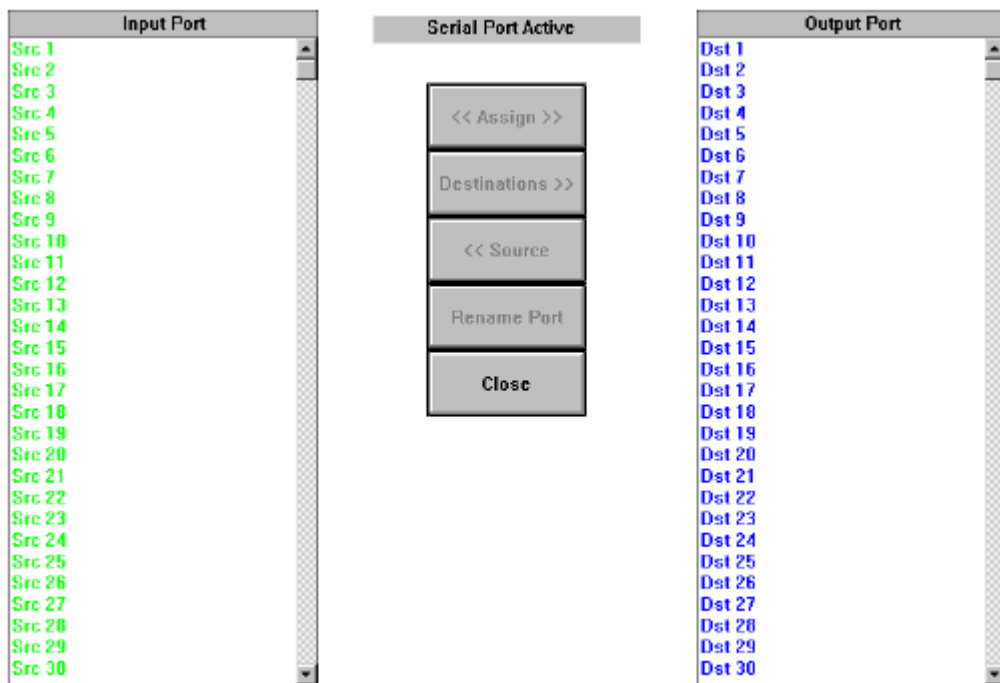
From the menu bar, click Settings| Local Port Names to check.

To assign input ports to output ports, click a port name in both columns and click Assign.

To assign multiple output ports, click the input port again, click a different output port, and click Assign.

To see what ports are assigned, click a port in one column, and then click either Destination or Source as appropriate. The assigned port or ports in the other column are highlighted.

Click Close to close the Status screen.



Do not exit the NexGen Router Controller System—it must remain running along with NexGen Digital™ Broadcast.

Step Four: Configuring NGDB

In this final step, you will configure sources (“inputs” in the NexGen Router Controller System Status screen) and destinations (“outputs” in the NexGen Router Controller System Status screen) and a few others from the Config area in NexGen Digital™ Broadcast.

From the NexGen Digital™ Broadcast desktop, click Config. The Configuration screen displays.

Click CPU. If there is a named ROUTER device in the list, make sure it has a valid IP address. If there is no named ROUTER device, create one. The only information needed in the CPU configuration at this point is the name (“ROUTER”) and a valid IP.

Click Source to access the Source Configuration screen.

Click New to name and set the bit positions for all sources (“inputs”) for the router. Each source must point to the ROUTER CPU. If you are using hot spares, one source must be named LOCAL in order for the hot spare to work properly should it need to come online.

Click Dest to access the Destination Configuration screen.

Click New to name and set the bit positions for all destinations (“outputs”) for the router. Each destination must point to the ROUTER CPU.

Click CPU and select and open the named ROUTER CPU Configuration dialog.

Click Ports and assign the appropriate source (if this is an Audio Server) or destinations (if this is for the DRR).

Click Station and select and open the appropriate Station Configuration dialog.

Select the destination for this station from the Destination drop-down list.

Restart NexGen Digital™ Broadcast.

LOCAL source and the hot spare

Hot “sparing” is the ability to remove and replace a failed part with a good part without requiring system or hardware shutdown or other exceptional measures. Hot spare CPUs are set up to receive records of a failed station and all associated data files and to go online almost immediately to assume that station’s identity. There are three hot sparing models that can be incorporated into the NexGen Digital™ system:

Router-based pool model - The router-based pool of hot spares works well when a one-to-one hot spare ratio is not desired or would not be practical to implement.

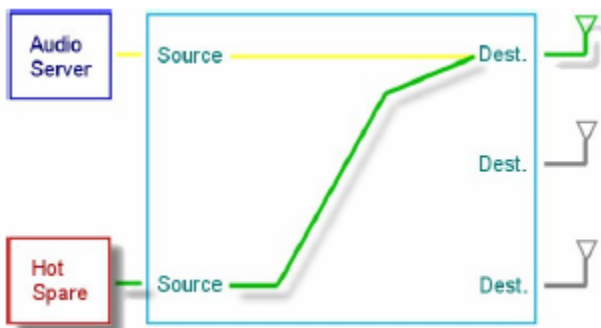
Dedicated PSi SS-621 model - The PSi SS-621 (switcher) model creates a one-to-one hot spare ratio where each hot spare machine is assigned a station to back up. This model requires a switcher to insert the hot spare machine in place of the primary audio server for a given station.

Dedicated router-less model - A dedicated router-less model requires the site to provide any audio routing and control outside of NexGen Digital™.

For a router-based hot spare to work correctly, a source must be defined as “LOCAL”. In this manner, if a hot spare comes online it won’t attempt to use the failed CPU’s source (which will be unavailable).

Failure Scenario: What Happens

The first stage of implementation for a hot spare model is the detection system. This can be as simple as an operator firing a GPI input to the NexGen Digital™ system or as complex as a multi-channel off-air monitoring system providing IP notification of a channel failure. Most sites use either operator-based detection or silence-sense detection systems. In dedicated hot spare configurations, the determination must be initiated outside of the NexGen Digital™ software.



Once a failure has been determined, the station’s records and all associated data are copied from storage to the next available hot spare CPU in a pooled configuration or to the designated CPU for non-pooled configuration.

The failed station’s router destination is given over to the hot spare CPU, which launches and continues to execute the station’s log using LOCAL as the source.

Unique Number Generation

Audio events are automatically numbered when the database is explicitly re-numbered or when audio events are copied or merged from outside sources. The number format (for example, what you see in Production) is xxxxxx-yyy — where “x” is a number and “y” is a cut. You set the possible number ranges by audio type from NexGen Digital™ in the Config|System area. The logic for determining available numbers has to weigh several variables.

Next Number

When you add new audio, re-number existing audio, copy audio, or merge audio loaded from outside sources, NexGen Digital™ automatically assigns unique numbers to those new audio events. NexGen Digital will do this for all audio types except:

Time

Temperature

VoiceTRAC

Liners

These audio events already have unique numbers prefixed with TI (time), TE (temperature), VT (VoiceTRAC), and LI (liner).

Number Configuration

For NexGen Digital™ to assign appropriate numbers automatically, you will first need to tell it the number ranges you want used for specific audio types. To set these number ranges:

In NexGen Digital™, access Config.

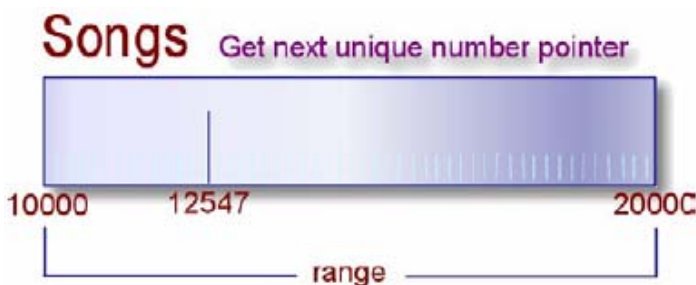
Click PSi System.

Click 'Audio Type Ranges'.

For each audio type, enter the number spread you want NexGen Digital™ to use in its calculations. For example, in the Low field for Songs enter 300001 as the first number in the range and in the High field enter 500000 as the last number in the range. For all subsequent audio, which meets the definition as "Song", NexGen Digital™ will assign it a unique number in the 300001 – 500000 range and will exclude all other audio types from that range.

Process

Unless you are working with audio on the source production CPU, NexGen Digital™ cannot ensure specific numbers within the audio range are reserved for your use. For example, if you click the Unique Next 5 button in Production for a list of five unique numbers, those numbers may get used by someone else prior to your using them.



In this case, only when you explicitly click Get Unique Number from a new audio template is a unique number reserved for your use; if you leave without saving a song with that number, however, NexGen Digital™ does not again offer it up as available—it instead steps up to the next available number in the range.

This behavior is intended to protect your production efforts from inadvertent overwriting of existing audio. Alternatively, you can choose to have NexGen Digital™ always assign a unique number (bypassing Get Unique Number). In the NexGen Digital™ Config|System|Production Defaults dialog, click *Automatically create unique numbers* for either or both songs and non-songs.

When a unique number is required, a search is started for the next available unique number at the pointer position. This pointer is updated as requests are made.

Once it reaches 20,000 (as in the example shown here) it will reset to 10,000 and start over in the range.

If all numbers in the range are used, you can increase the range or assign a new range for that audio type. This method of assignment eliminates the possibility that two numbers of the same value are assigned simultaneously.